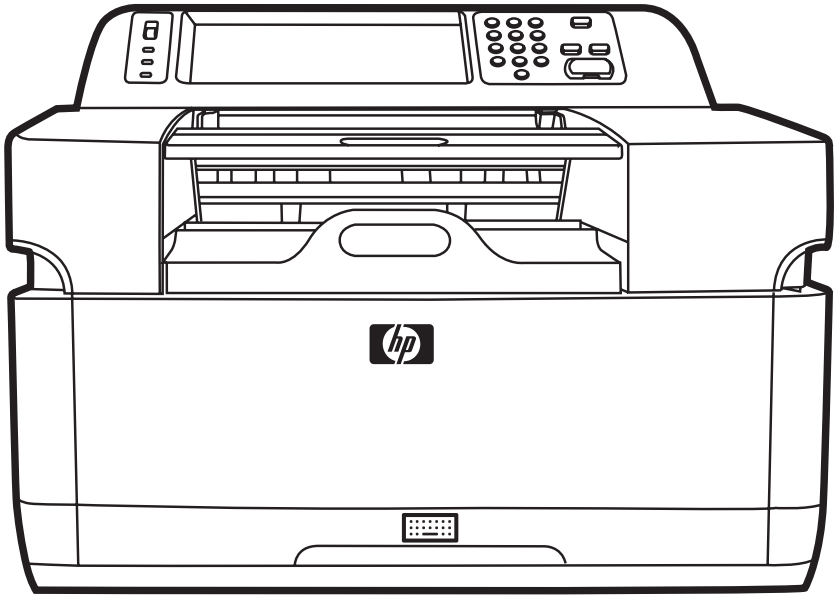
HP 9250C Digital Sender

Service Manual



HP 9250C Digital Sender
Service Manual

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1 Device information

Chapter contents

- Device information
- Features
- Software features
- Device parts
- Use the control panel
- Device software
- Paper handling

Device information

The HP Digital Sender 9250c converts black-and-white and color documents, drawings, and photographs into an electronic form and then distributes them directly to several kinds of destinations. You can also install the included HP Digital Sending Software (HP DSS) program to use advanced digital sending features such as send-to-workflow with optical character recognition (OCR).

Installing the device is simply a matter of connecting it to your network and configuring the digital-sending features. The digital sender operates as a standalone unit on the network and does not require network privileges for administration.

Where to get more information

The following table outlines the digital sending features that are available, and where to find more information about these features. All of the documentation listed in this table can be found on the documentation CD that came in the box with the device.

Feature	Description	For more information
Scan to E-mail	Scan a document and send it to any e-mail address.	User guide or DSS support guide
Scan to Folder	Scan a document to a network folder. More than one folder destination can be configured.	Embedded Web Server (EWS) user guide
Address Book for E-mail and Fax	Enter names and e-mail addresses or names and fax numbers for e-mail and fax recipients into the device's address book. This feature can also be used to manage the fax speed dials list.	• User guide • EWS user guide (for detailed information) • DSS support guide
User PIN Authentication	Enter names and personal identification numbers (PIN) so that only authorized users can use specific features of the device.	EWS user guide
LDAP Addressing	Configure the device to search an LDAP (Lightweight Directory Access Protocol) directory for names and e-mail addresses. This feature makes the addressing of send to e-mail jobs easier.	EWS user guide or DSS support guide
LDAP Authentication	Configure the device to require user authentication to use specific device features. This feature relies on an existing LDAP infrastructure, and can be configured to support LDAP over a Secure Sockets Layer (SSL).	EWS user guide
Kerberos Authentication	Configure the device to require user authentication to use specific features of the device. This feature relies on an existing Kerberos Realm infrastructure. A Microsoft Windows Domain environment supports Kerberos natively.	EWS user guide
DSS LAN Fax	Use the device to route fax jobs via an existing local area network (LAN) fax infrastructure.	DSS support guide

Feature	Description	For more information
DSS Send to Folder	Scan a document to a network folder. More than one folder destination can be configured.	DSS support guide
DSS Workflow	Scan a document and capture information about the scanned document by prompting the user. The document can then be routed to another application. This feature can be configured to use OCR (optical character recognition).	DSS support guide
DSS Windows Negotiated Authentication	Configure the device to require user authentication to use specific features of the device. This feature relies on an existing Microsoft Windows domain infrastructure.	DSS support guide
DSS LDAP Authentication	Configure the device to require user authentication to use specific features of the device. This feature relies on an existing LDAP infrastructure.	DSS support guide

Features

The digital sender includes the following features:

- **Digital sending**—Send scanned files to e-mail addresses and network folders. Advanced digital-sending functions are carried out by the HP Digital Sending Software (HP DSS), which is included with the device.
- **ADF**(automatic document feeder)—The legal-size ADF accepts up to 50 pages, and includes built-in duplexing for scanning both sides of a double-sided document.
- **Interactive touchscreen control panel**—Intuitive onscreen menus and wizards help you to complete digital-sending tasks.
- **Flatbed scanner**—The letter/A4-size scanner can scan in both black-and-white and color, with the ability to scan up to 1 mm (0.04 inch) from the paper edge.
- **Memory**—The device comes standard with 256 megabytes (MB) of random access memory (RAM).
- **Hard disk**—The device includes a 40-gigabyte (GB) internal hard drive for storing documents and settings.
- **Connectivity**—The device provides a 10/100Base-T port, through Jetdirect Inside an HP Jetdirect Fast Ethernet port, and an enhanced input/output (EIO) expansion slot for connectivity.

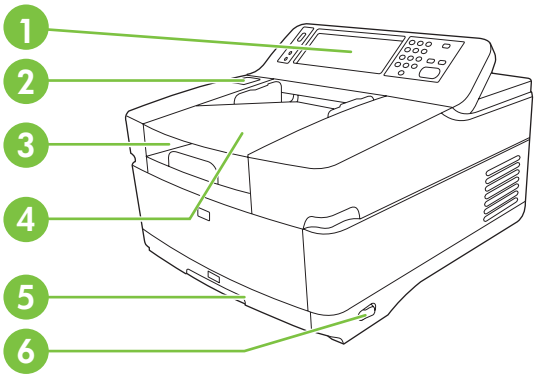
Software features

The HP DSS program supports the digital sender by providing the following features:

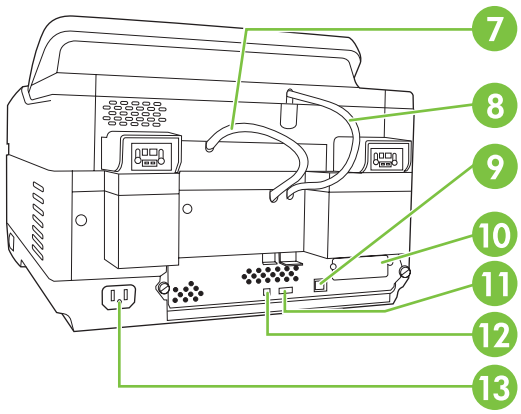
- **Send to e-mail**—Scan a document and send it to one or more e-mail recipients in the form of a .PDF, .JPEG, .TIFF, or .MTIFF file.
- **Send to secondary (secure) e-mail**—Send a document by using a secure third-party e-mail solution.
- **Send to fax**—Scan a document and send it to a local area network (LAN) fax, Internet fax, or Windows® 2000 fax destination. (This device does not have analog fax capability.)
- **Send to workflow**—Scan a document and save it to a network folder or file transfer protocol (FTP) site along with a file containing additional information about the document. A third-party software program can then retrieve and decipher the information, and perform the appropriate operation on the scanned image. A printer can also be set up as a workflow destination, so that scanned documents can be printed.
- **Send to network folder**—Scan a document and send it to a folder on the network.

Device parts

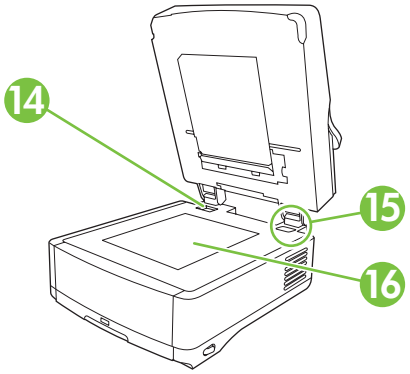
Before using the digital sender, familiarize yourself with its parts.



1	Control panel
2	Jam release button
3	Output bin
4	ADF input bin
5	Keyboard (pull to open)
6	On/off switch



7	ADF cable
8	Control-panel cable
9	10/100Base-T network port
10	EIO slot
11	USB host port (for third-party devices only)
12	USB device port (for firmware upgrades only)
13	Power connector



14	Scanner lock
15	Serial number
16	Scanner glass

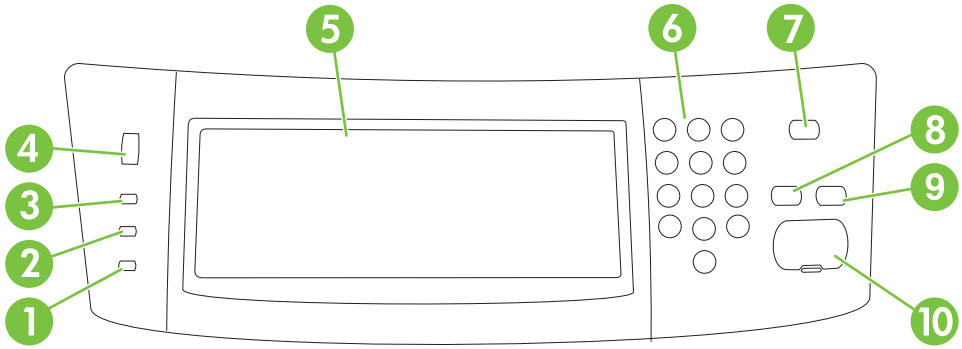
Use the control panel

The control panel has a VGA touchscreen that provides access to all device functions. Use the buttons and numeric keypad to control jobs and the device status. The LEDs indicate overall device status.

Control-panel layout

The control panel includes a touchscreen graphical display, job-control buttons, a numeric keypad, and three light-emitting diode (LED) status lights.

Figure 1-1 Control-panel layout



1	Attention light	The Attention light indicates that the device has a condition that requires intervention, such as an error message on the touchscreen.
2	Data light	The Data light indicates that the device is receiving data.
3	Ready light	The Ready light indicates that the device is ready to begin processing a job.
4	Brightness-adjustment dial	Turn the dial to control the brightness of the touchscreen.
5	Touchscreen graphical display	Use the touchscreen to open and set up all device functions.
6	Numeric keypad	Use the keypad to type numeric values, such as a fax number.
7	Sleep button and light	If the device is inactive for a long period of time, it automatically enters Sleep mode. To place the device into Sleep mode or to reactivate the device, press the Sleep button. When the light is glowing, the device is in Sleep mode.
8	Reset button	Resets the job settings to factory or user-defined default values.

9	Stop button	Stops the active job. While stopped, the control panel shows the options for the stopped job (for example, if you press Stop while the device is processing an e-mail job, the control panel message prompts you to cancel or resume the job).
10	Start button and light	Starts digital sending, or resumes a job that has been interrupted. When the light is glowing, the device is ready to start scanning.

Device software

Digital-sender software

To take advantage of advanced digital-sender features such as scanning with OCR or sending to a workflow, you can install the HP Digital Sending Software Version 4.0 (HP DSS) that is provided on a CD-ROM with the device. This software runs as a service on a network server. It is not necessary to install any software or drivers on individual user's computers.

See the *HP Digital Sending Software Support Guide* on the documentation CD for software installation and configuration instructions.

The most recent software updates are available on the Internet at www.hp.com/support/dss.

Paper handling

The HP Digital Sender 9250c supports the following standard media sizes:

- **Letter:** 215.9 x 279 mm (8.5 x 11 inches)
- **Executive:** 190 x 254 mm (7.5 x 10 inches)
- **A4:** 210 x 297 mm (8.3 x 11.7 inches)
- **A5:** 148 x 210 mm (5.83 x 8.27 inches)
- **B5:** 176 x 250 mm (6.9 x 9.8 inches)
- **Legal (from the ADF only):** 215.9 x 355.6 mm (8.5 x 14 inches)

Paper weight: 60 to 120 g/m2 (16 to 32 lb)

Up to 50 sheets of paper can be stacked in the ADF, up to a maximum height of 5 mm (0.2 inch).

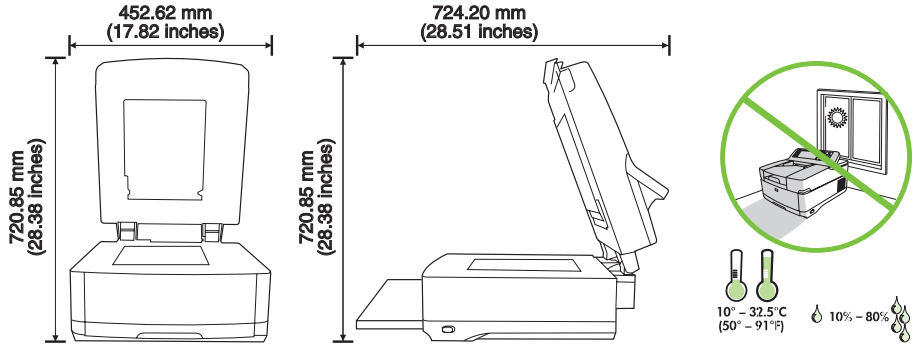
2 Installation and configuration

Chapter contents

- Prepare the site
- System requirements
- Unpack the device

Prepare the site

Select a well-ventilated, dust-free area to install the device. Place the device on a sturdy surface.



System requirements

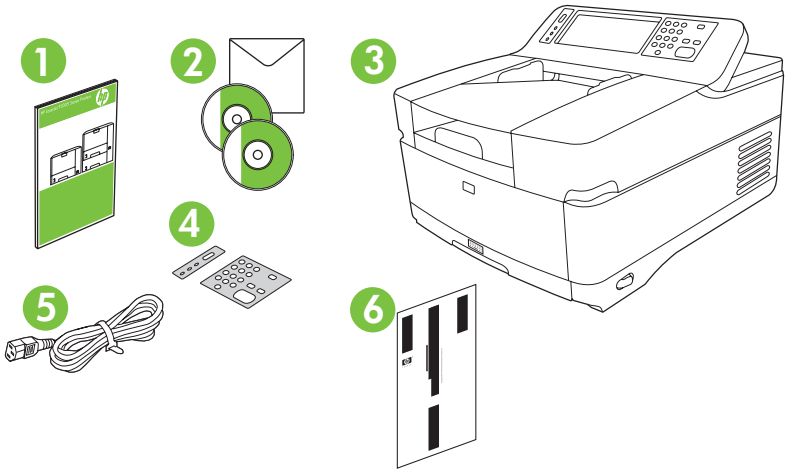
To install the HP Digital Sender 9250c, the computer system must have the following features:

- Fast Ethernet 100Base-TX or Ethernet 10Base-T
- Access to an SMTP e-mail gateway

NOTE: HP *highly recommends* establishing SMTP gateway on your own local area network. However, the device can be configured for e-mail functionality even if mail services are provided by an outside Internet service provider (ISP) over a digital subscription line (DSL).

Unpack the device

Remove all shipping bags, tape, and packing material.



1	Getting started guide (use the getting started guide for installation)
2	Digital sender documentation and HP DSS optional software
3	Digital sender
4	Control-panel overlays (if included)
5	Power cord
6	Calibration sheet

3 Maintenance

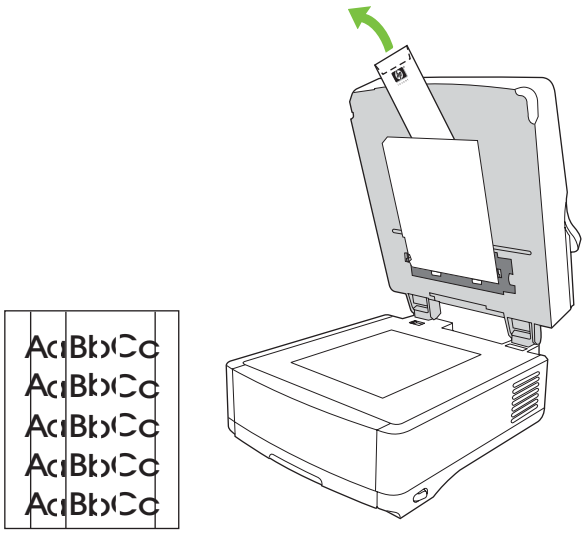
Chapter contents

- Replace supplies and parts
- Clean the device

Replace supplies and parts

Replace the mylar sheet

If you start to see vertical streaks on the scanned images, you might need to replace the mylar sheet at the base of the ADF. The device ships with an envelope containing three extra mylar sheets and installation instructions. The envelope is in a pocket behind the ADF vinyl backing, as shown in the following figure.



Follow the instructions that come in the envelope to replace the mylar sheet.

NOTE: If necessary, you can order extra mylar sheet replacement kits from your HP sales representative. The HP product number is Q6496A.

Replace the ADF Maintenance Kit

The device notifies you when it is time to replace the ADF Maintenance Kit by showing a message on the control-panel display. You can view the remaining life of the Maintenance Kit at any time by pressing the Supplies Status button on the control panel or visiting the EWS **Supplies Status** page (see the embedded Web server guide on the device CD).

The ADF Maintenance Kit includes the following items:

- One pickup roller assembly
- One separation pad
- One mylar sheet kit
- An instruction booklet

Follow the instructions that come with the kit to install it.

After replacing the kit, reset the New Document Feeder Kit setting.

1. On the Home screen, touch Administration.
2. Scroll down and touch Resets.
3. Touch Reset Supplies.
4. Touch New Document Feeder Kit.
5. Touch Yes, and then touch Save.

Clean the device

During the scanning process, paper and dust particles can accumulate inside the device. Over time, this buildup can cause problems, such as specks on scanned documents.

Clean the exterior

Use a soft, damp, lint-free cloth to wipe dust, smudges, and stains off of the exterior of the device.

Clean the glass

- Clean the glass only if dirt is visible, or if you see poor scan quality (such as streaking).
- Clean the glass surface by wiping it gently with a clean, damp, lint-free cloth. Use an ammonia-based surface cleaner to dampen the cloth.

△ **CAUTION:** Do not pour or spray liquids directly onto the glass. Do not press hard on the glass surface, as this could break the glass.

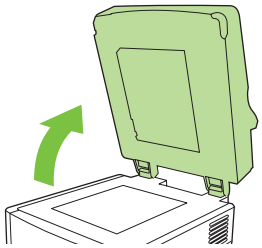
Clean the touchscreen

Clean the touchscreen when needed to clear away fingerprints or dust build-up. To clean it, wipe the touchscreen gently with a clean, water-dampened, lint-free cloth.

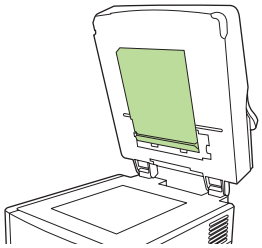
△ **CAUTION:** Use water only. Solvents or cleaners can damage the touchscreen. Do not pour or spray water directly onto the touchscreen.

Clean the ADF delivery system

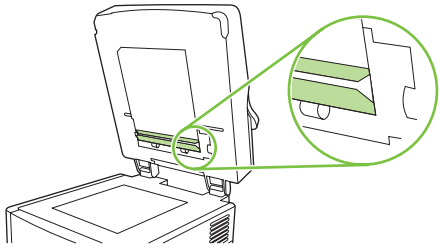
1. Open the scanner lid.



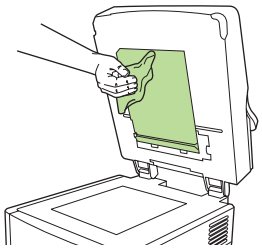
2. Locate the white, vinyl ADF backing.



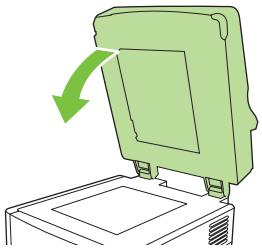
3. Locate the white, vinyl calibration strips.



4. Clean the ADF backing and the calibration strips by wiping them with a clean, damp, lint-free cloth. Use an ammonia-based surface cleaner to dampen the cloth.



5. Close the scanner lid.

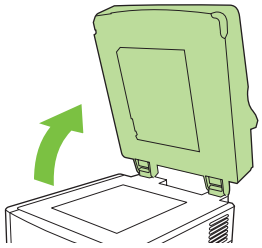


Clean the ADF rollers

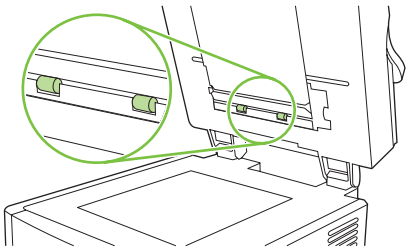
You should clean the rollers in the ADF if you are experiencing misfeeds or if your originals show marks as they exit the ADF.

△ **CAUTION:** Cleaning the rollers too frequently could introduce dust into the device.

1. Open the scanner lid.



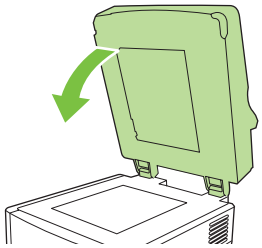
2. Locate the rollers near the vinyl calibration strips.



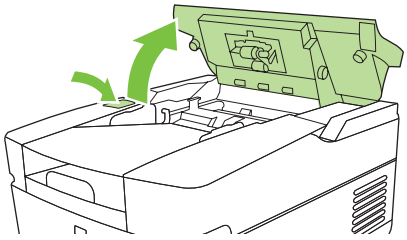
3. Wipe the rollers gently with a clean, water-dampened, lint-free cloth.

△ **CAUTION:** Do not pour water directly onto the rollers. Doing so might damage the device.

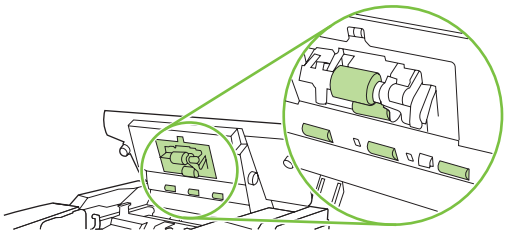
4. Close the scanner lid.



5. Push the release button to open the ADF cover.



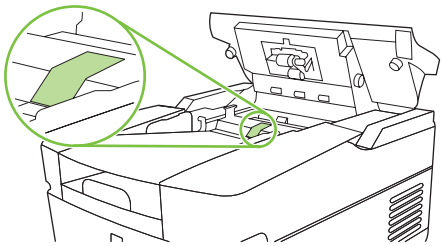
6. Locate the rollers.



7. Wipe the rollers with a clean, water-dampened, lint-free cloth.

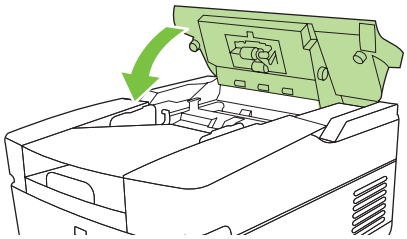
△ **CAUTION:** Do not pour water directly onto the rollers. Doing so might damage the device.

8. Locate the separation pad.



9. Wipe the pad with a clean, water-dampened, lint-free cloth.

10. Close the ADF cover.



4 Theory of operation

Chapter contents

- Basic operation
- Formatter system
- Engine control system
- Flatbed unit and ADF system

Basic operation

All high-level digital sender processes are routed through the formatter, which processes images and communicates with other devices.

The basic digital sender operation can be divided into three systems:

- The engine control system, which includes the power supply and the scanner controller board
- The pickup-and-feed system, which consists of various rollers and transports the media through the ADF
- The scanner system, which scans documents and sends them to the formatter in the form of data

Sequence of operation (scanner)

Period (sequence)	Description
Power on	The period of time from when the digital sender power is turned on until the main motor begins to rotate.
Initialization	The period of time after the initial power-on sequence and before the digital sender is ready to scan. During this time, the scanner and ADF initialization is completed, scanner calibration is performed, and the ADF checks for media in the input tray.
Standby	The period of time from the end of the initialization sequence until a request for a scan. During this time, the scan carriage is in the Home position and the digital sender might go into Sleep mode.
Scan	The period of time immediately following a request for a scan. The scanner fan turns on, the scan start position is adjusted, the digital sender performs the scan, and data is sent to the formatter.

Formatter system

The formatter is responsible for the following procedures:

- Controlling Sleep mode
- Receiving and processing scan data
- Monitoring control-panel functions and relaying digital-sender status information (through the control panel and the network)
- Developing and coordinating data placement and timing with the scanner controller board
- Communicating over the network

The formatter provides the electrical interface and mounting locations for one EIO card, one memory DIMM, and the hard-disk drive. The formatter also provides two internal USB host ports (for third-party devices), one external USB host port, and one external USB device port.

Sleep mode

This feature conserves power after the digital sender has been idle for an adjustable period of time. When the digital sender is in Sleep mode, the control-panel backlight is turned off, but the digital sender retains all settings. The default setting is for Sleep mode to be enabled, and the digital sender enters the Sleep mode after a 30-minute idle time. Sleep mode can also be turned off from the Administration menu.

The digital sender exits Sleep mode and enters the warm-up cycle when any of the following occurs:

- A PML or PJL command is received
- You touch the control-panel touchscreen or press a key on the keyboard or a button on the control panel
- The top cover is opened
- Media is placed in the input tray

NOTE: Digital-sender error messages override the Sleep message. The digital sender enters Sleep mode at the appropriate time, but the error message continues to appear.

CPU

The formatter incorporates a 480 MHz MIPS processor.

Memory

The formatter system contains the digital sender memory, which is divided into several components. This section describes each memory component.

NOTE: If the digital sender encounters a problem when managing available memory, a clearable warning message appears on the control panel.

- **Hard-disk drive.** The digital sender comes standard with a hard disk that has a capacity of 40 GB or greater. The hard disk is used to store settings.
- **Random-access memory on the formatter.** The random-access memory (RAM) contains the scanned image. Memory capacity can be increased by adding a dual inline memory module (DIMM) to the formatter or replacing an existing DIMM with a larger DIMM. In most cases, additional memory might be required to use the digital sender with certain other devices, such as third-party devices. Typically, adding memory will not increase the performance of the device.
- **Nonvolatile memory.** The digital sender uses nonvolatile memory (NVRAM) to store I/O information and other permanent information, such as page counts and serial number. The contents of NVRAM are retained when the digital sender is turned off or disconnected.

Control panel

The control panel contains both touchscreen and hard keys, and sends user commands to the formatter.

Keyboard

The keyboard tray contains a keyboard for entering e-mail addresses and other data.

Scanner controller board

The scanner controller board sends data to the formatter and receives commands from the formatter. The scanner controller board controls motors, fans, and sensors.

Engine control system

Engine power supply circuit

The power supply consists of a low-voltage circuit. The low-voltage circuit provides uninterrupted 5 volt (V) and 3.3 V power to the formatter, and provides 24 V, 5 V, and 3.3 V power to the scanner controller board.

Flatbed unit and ADF system

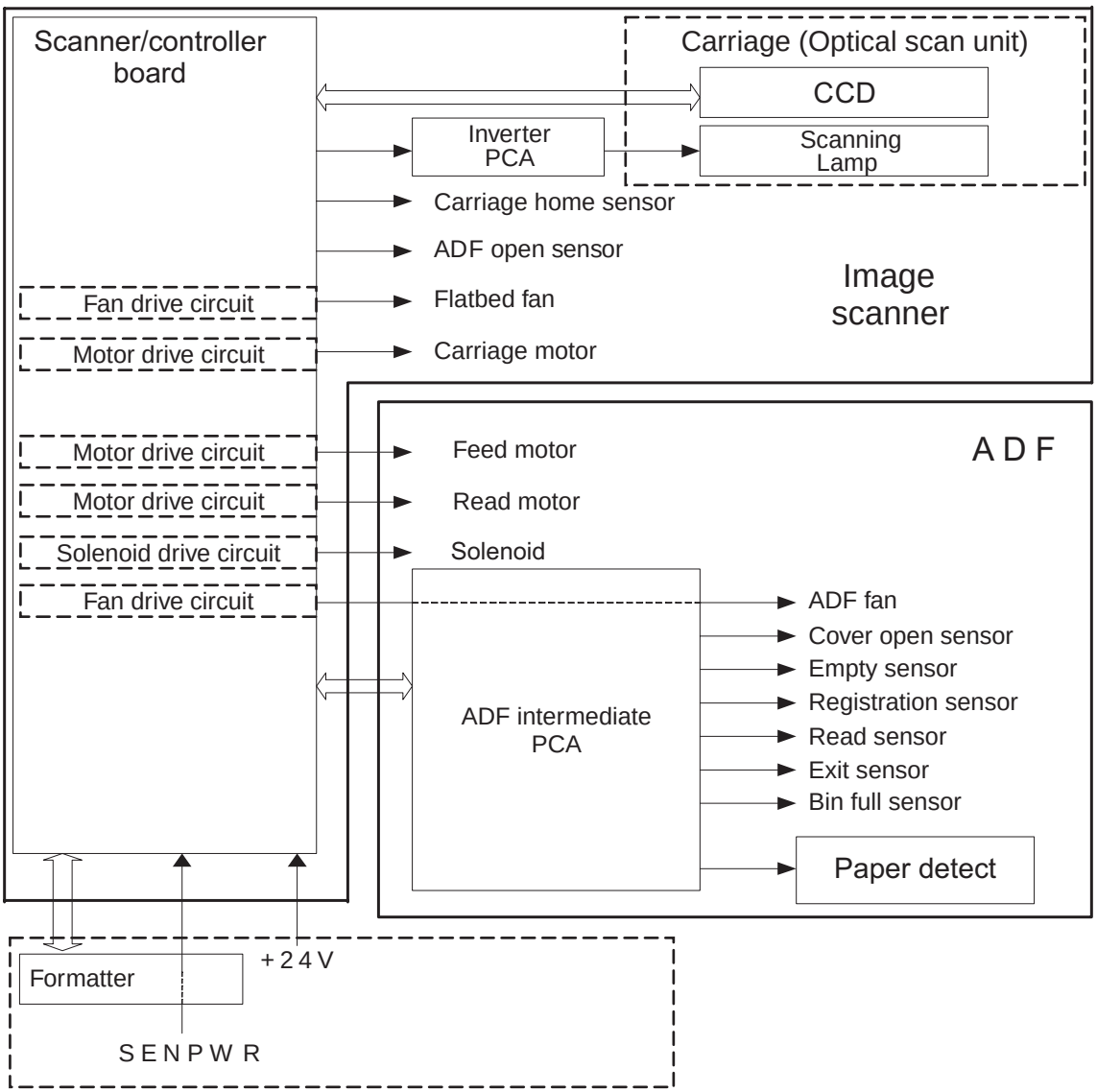
Electrical system

The scanner-assembly electrical system consists of the following components:

- The charged-coupled device (CCD) PCA (optical assembly)
- The inverter
- The scanner controller board
- The ADF intermediate board

Figure 4-1 Scanner assembly electrical structure on page 29 shows the scanner-assembly electrical structure.

Figure 4-1 Scanner assembly electrical structure



Motors and fans

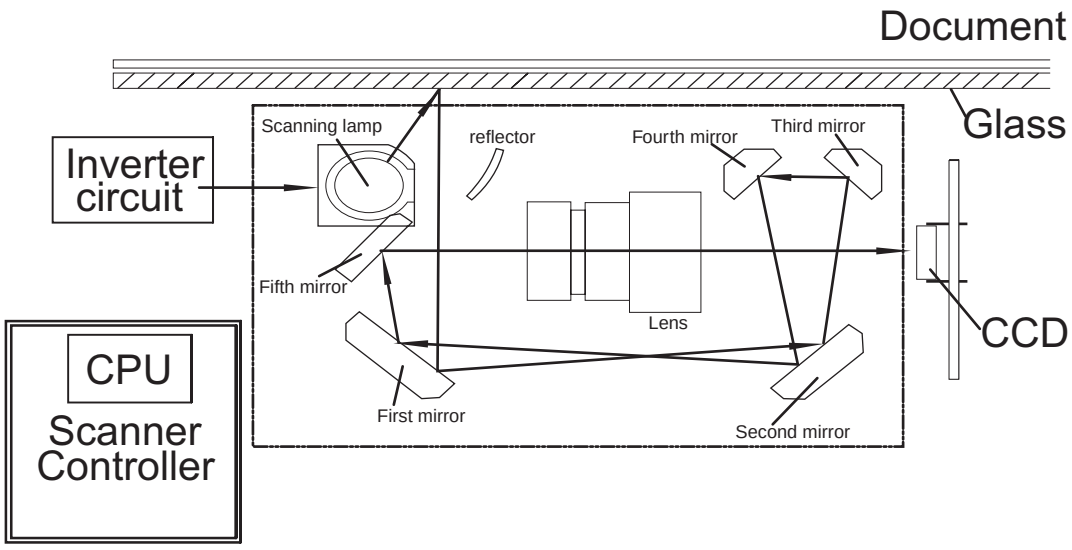
The scanner assembly has three motors and three fans. The motors are stepping motors, which drive the components inside the scanner assembly. The fans cool various motors and components in the system.

Name	Purpose	Type	Rotation	Failure detection
Scanner motor (flatbed motor)	Drives the scanner carriage unit	Stepping motor	Varies	No
Feed motor	Drives the pickup, the separation, and registration rollers	Stepping motor	Varies	No
Read motor	Drives the feed and delivery rollers	Stepping motor	Varies	No
Power supply fan	Cools the power supply	Fan	Exhaust	No
Scanner motor fan	Cools the scanner lamp and the CCD	Fan	Intake	Yes
ADF fan	Cools the feed motor and the read motor	Fan	Exhaust	Yes
Formatter fan	Cools the formatter	Fan	Exhaust	Yes

Optical assembly

The optical assembly contains the lamp, five mirrors, a lens, and the charged coupled device (CCD).

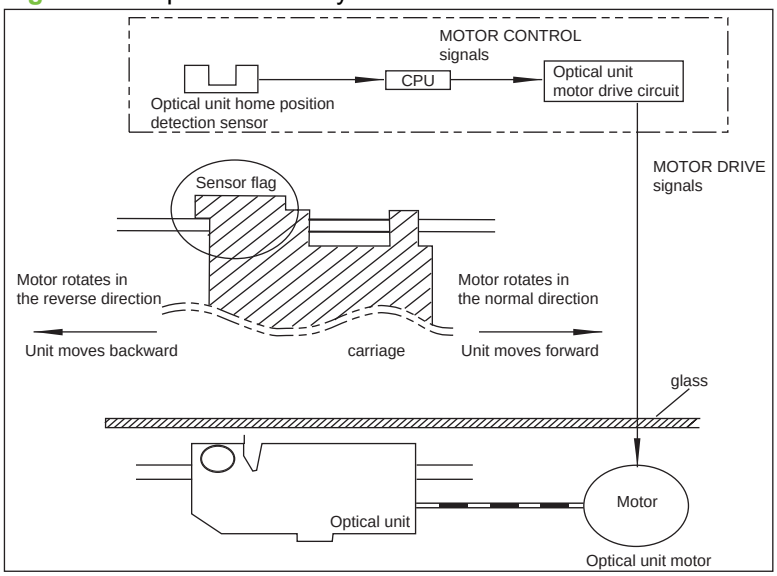
Figure 4-2 Scan carriage components



The scanner lamp illuminates a small strip of the document that is called the raster line. The mirrors direct the light through the lens to the CCD. The CCD senses and records the light, creating an analog representation of the raster line. If the ADF is being used, the document then advances in the ADF to

the next raster line. If the flatbed is being used, the carriage advances to the next raster line. This advancing and collection process continues to the end of the sheet.

Figure 4-3 Optical assembly

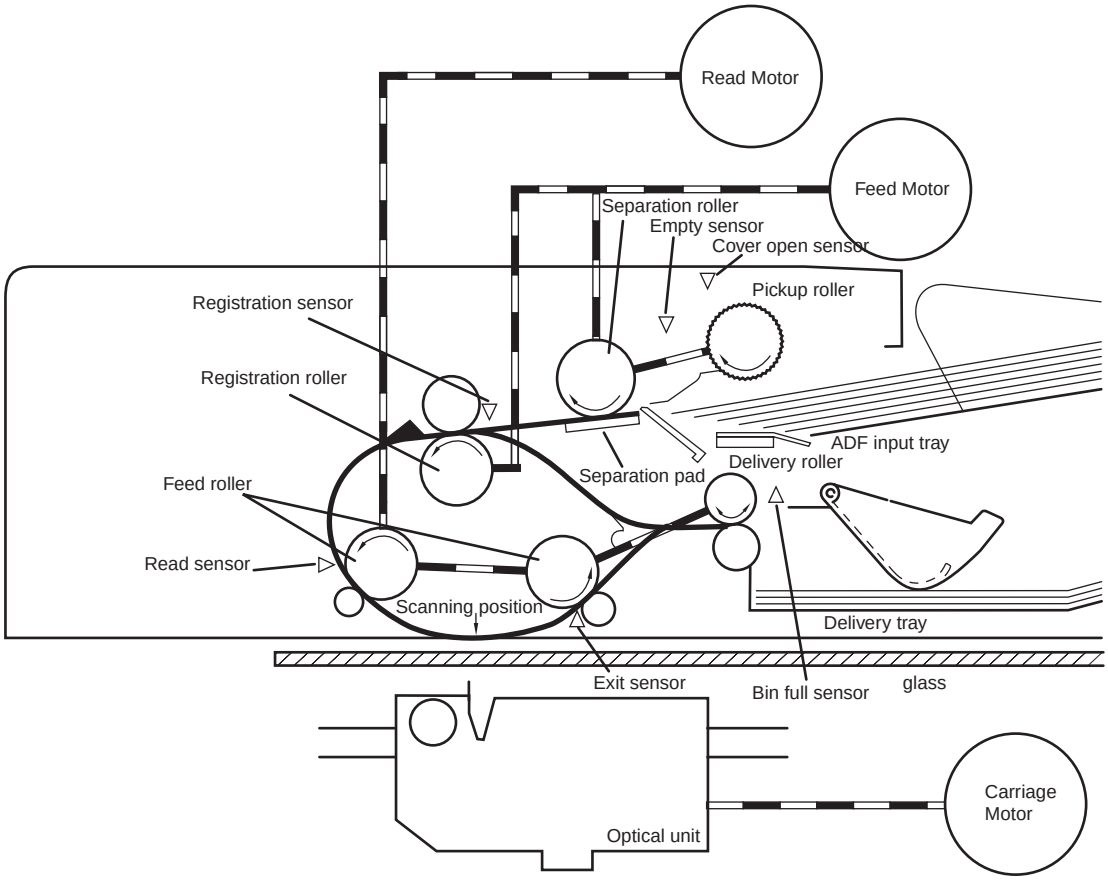


The image data is collected on the scanner controller board, where it is processed and sent to the formatter.

ADF feed system

The ADF has built-in duplexing capability for scanning two-sided documents. Pages from the original document enter the ADF from the ADF input tray. A separation roller and separation pad work together to separate the top sheet from the stack. The page passes through a set of registration rollers and two sets of feed rollers that advance the page. A set of delivery rollers delivers the page to the ADF output bin. A bin-full sensor detects when the ADF output bin is full and stops the feed mechanism until the bin is emptied.

Figure 4-4 ADF paper path and sensors



Jam detection

When the sensors inside the ADF detect a jam, the feed and read motors immediately stop. A signal is sent to the scanner controller board, which notifies the formatter. An error message appears on the control-panel display.

To clear a jam, open the jam-access cover and remove the media. When sensors do not detect media after entering the jam state, the jam message is cleared from the control-panel display.

Residual-media jam

During the initialization sequence or after the ADF jam cover has been opened and closed, if the registration sensor, read sensor, or exit sensor detects the presence of media, the scanner controller board determines that a residual-media jam has occurred.

ADF pickup jam

If the leading edge of the media did not reach the registration sensor within a specific period of time, the scanner controller board determines that an ADF pickup jam has occurred.

ADF jam

ADF jams can occur in three places inside the ADF.

Registration-sensor jam

If the registration sensor does not detect the trailing edge of the media after the leading edge reaches the scan-ready position, the scanner-controller board determines that an ADF jam has occurred.

Also, when the scanner duplexer is in use, if the registration sensor does not detect the leading edge of the media after a specific period of time after media enters the duplexer, the scanner-controller board determines that an ADF jam has occurred.

Read-sensor jam

If the read sensor does not detect the leading edge of the media within a specific period of time, or if the read sensor does not detect the trailing edge of the media within a specific period of time after it detects the leading edge, the scanner-controller board determines that an ADF jam has occurred.

Exit-sensor jam

If the exit sensor does not detect the leading edge of the media within a specific period of time after the leading edge reaches the read sensor, or if the exit sensor does not detect the trailing edge of the media within a specific period of time after the read sensor detects the trailing edge, the scanner-controller board determines that an ADF jam has occurred.

ADF cover-open jam

If the ADF jam-access cover is opened while media is feeding through the ADF, a jam occurs.

ADF open jam

If the ADF is opened while media is feeding through the ADF, a jam occurs.

5 Removal and replacement

This chapter contains information about the following topics:

- Removal and replacement strategy
- User-replaceable parts
- External components and covers
- Internal components

Removal and replacement strategy

This chapter describes how to remove, replace, and reassemble the major assemblies of the digital sender. Replacement is generally the reverse of removal.

⚠ **WARNING!** Unplug the power cord from the power outlet (at the wall receptacle) before attempting to service the digital sender. If you do not follow this warning, severe injury can result. Certain functional checks during troubleshooting might require power to be supplied to the digital sender. However, all power should be turned off and the product should be unplugged when you remove any digital sender assemblies or components. Never operate or service the digital sender when the protective cover is removed from the laser/scanner assembly. The reflected beams, although invisible, can damage your eyes.

△ **CAUTION:** The product contains components that are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation. If an ESD-protected workstation is not available, discharge body static by grasping the digital sender chassis before touching an ESD-sensitive component. Ground the digital sender chassis before servicing the digital sender.

NOTE: To identify the left side and right side of the digital sender, face the control panel.

Required tools

- #1 Phillips screwdriver
- #2 Phillips screwdriver
- #2 Phillips screwdriver with a shaft diameter of 6 mm (0.25 inch) or less
- Short #2 Phillips screwdriver shaft length of 76 mm (3.0 inches)
- Right-angle #2 Phillips screwdriver
- Small flat-blade screwdriver
- Needle-nose pliers
- ESD mat (if available; see the preceding ESD caution)
- Penlight (optional)
- Tape (optional)

△ **CAUTION:** A pozidriv screwdriver can damage screw heads on the product. Use a #2 Phillips screwdriver.

Before performing service

- If possible, go to the digital sender embedded Web server and print the configuration page.

After completing service

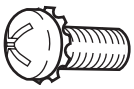
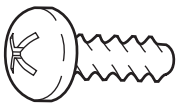
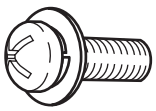
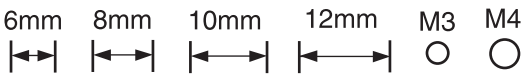
- Reconnect all cables to the product.
- Replace all of the accessories.
- Verify that the most recent firmware is installed. See Upgrade the firmware on page 147.

Screws that are used in the digital sender

This table describes the screws that are used in the digital sender and provides guidelines to help determine where each type of screw is used. The screws can vary in length depending on the thickness of the material that is being fastened. Always note where each type of screw is located and replace each one in its original location.

NOTE: When you are disassembling the product, place the screws into the chassis holes from which they were removed. This prevents their loss, and ensures that the proper type and length of screw for each location is used when the product is reassembled

Table 5-1 Common fasteners that are used in this digital sender

Drawing and description	Purpose
 Phillips-head machine screw with captive star washer	This screw is used to fasten metal to metal when good electrical contact is needed. This screw also provides high resistance to loosening.
 Phillips-head screw with self-tapping threads	This screw is used to fasten sheet metal or plastic to plastic frames. The deep, coarsely spaced threads provide an increased holding capability while decreasing the possibility of stripping the target hole. **NOTE:** To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, and then carefully turn it clockwise to tighten it. You will feel resistance and hear the screw click when it engages the existing threads in the hole. Do not overtighten the screw. If a self-tapping screw-hole becomes stripped, repair the screw-hole or replace the affected assembly.
 Phillips washer-head machine screw with a broad, flat washer attached to the screw head	This screw is used to fasten sheet metal parts to the sheet metal chassis. It spans large clearance holes and distributes the load by increasing the bearing surface.
Screw measurement guide 	

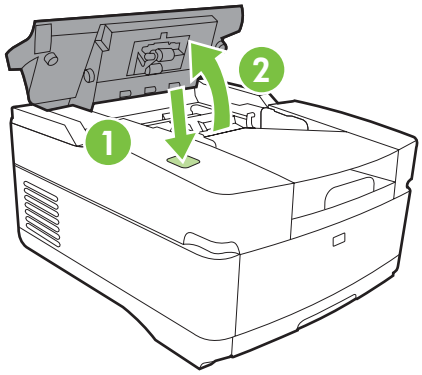
User-replaceable parts

- Separation pad
- Pickup-roller cover
- Pickup roller assembly
- Mylar-holder assembly
- ADF mylar shield
- Control panel
- Control-panel overlays
- Formatter assemblies
- Hinge flaps
- Paper input tray

Separation pad

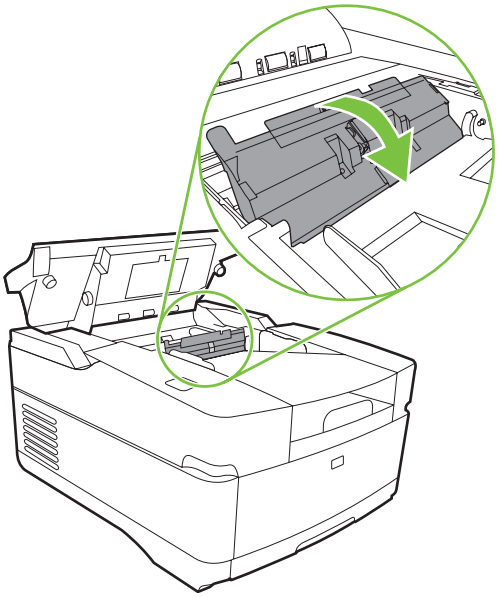
1. Open the ADF top cover.

Figure 5-1 Removing the separation pad (1 of 3)



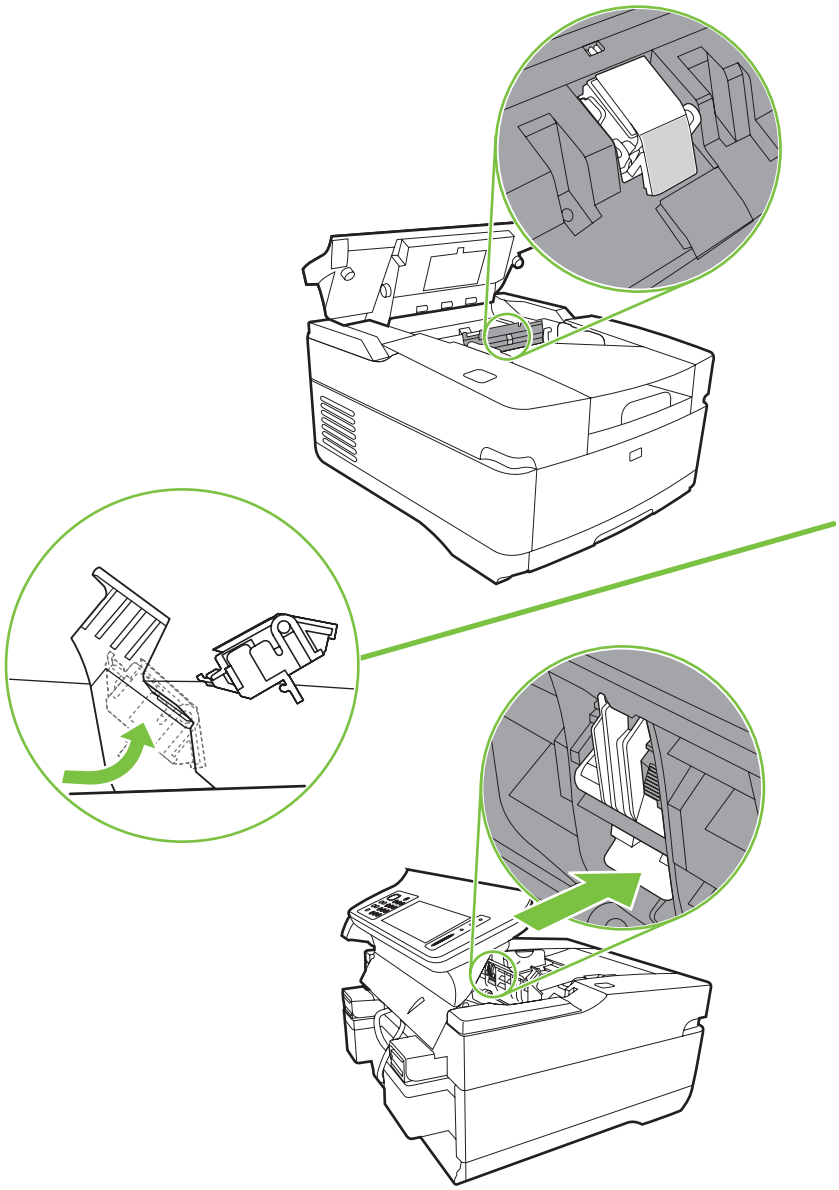
2. Raise the separation pad frame assembly.

Figure 5-2 Removing the separation pad (2 of 3)



3. Push the bottom edge of the separation pad away from the frame.

Figure 5-3 Removing the separation pad (3 of 3)

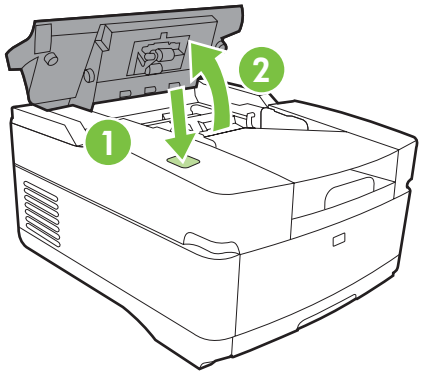


4. Remove the separation pad.

Pickup-roller cover

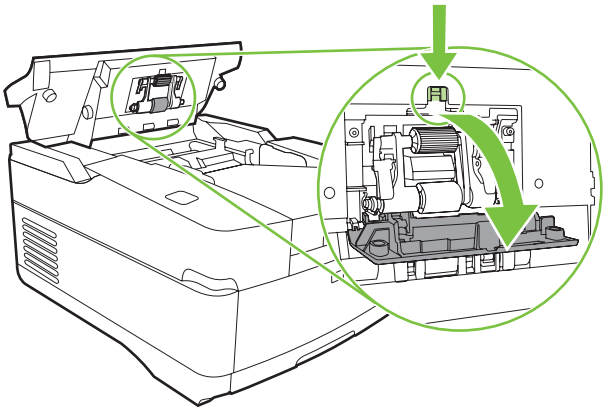
1. Open the ADF top cover.

Figure 5-4 Removing the paper input tray (1 of 2)



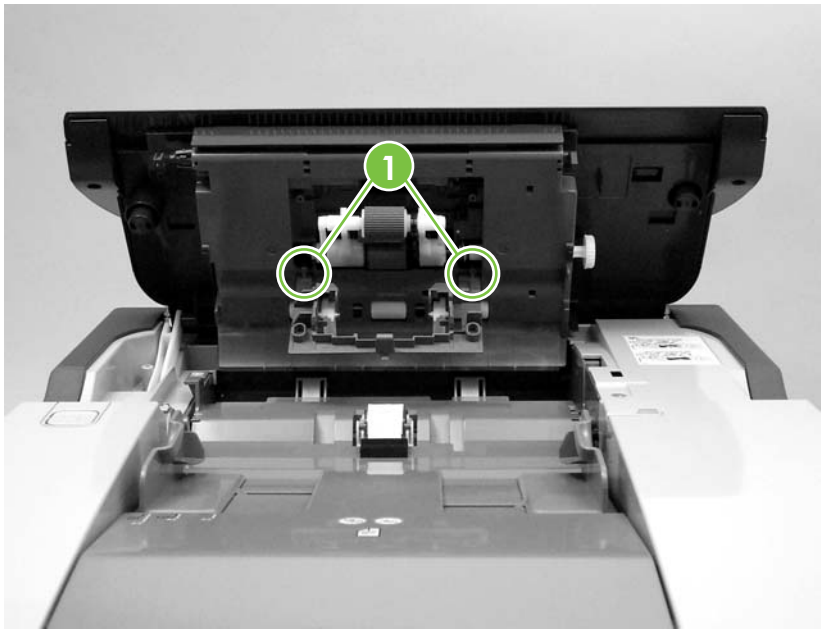
2. Open the pickup-roller cover by pressing the locking tab and rotating the top of the assembly away from the ADF.

Figure 5-5 Removing the pickup roller assembly (2 of 3)



3. Release two clips (callout 1) to remove the cover.

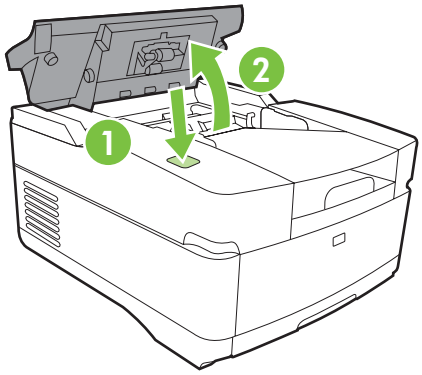
Figure 5-6 Removing the pickup-roller cover (2 of 2)



Pickup roller assembly

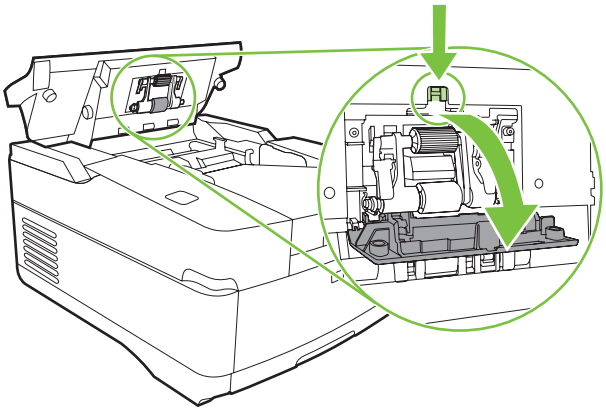
1. Open the ADF top cover.

Figure 5-7 Removing the pickup roller assembly (1 of 3)



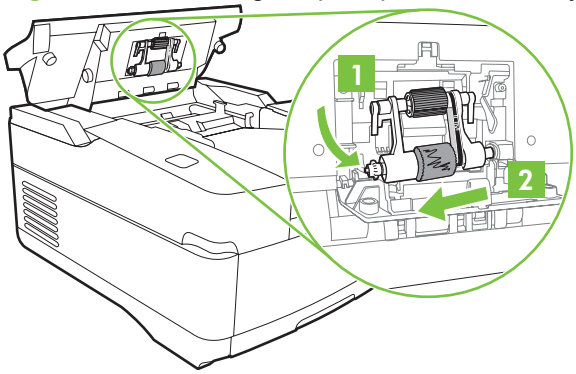
2. Open the pickup-roller cover by pressing the locking tab and rotating the top of the assembly away from the ADF.

Figure 5-8 Removing the pickup roller assembly (2 of 3)



3. Pull the left side (gear end) of the roller-assembly drive shaft to disengage it, and then slide the assembly toward the left of the device to remove it.

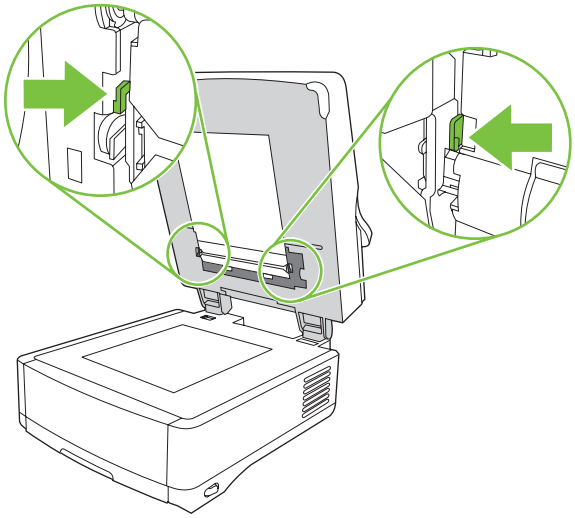
Figure 5-9 Removing the pickup roller assembly (3 of 3)



Mylar-holder assembly

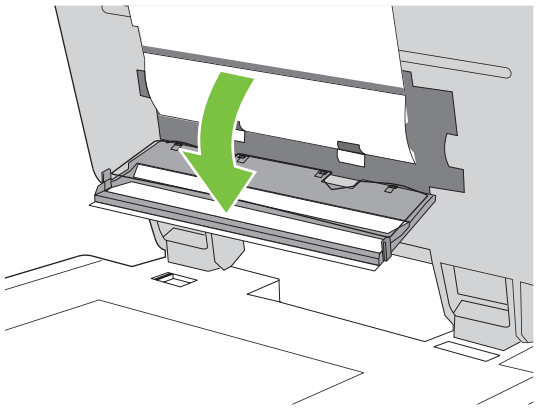
1. Open the ADF/scanner assembly and release the locking tabs on the mylar-holder assembly.

Figure 5-10 Removing the mylar-holder assembly (1 of 3)



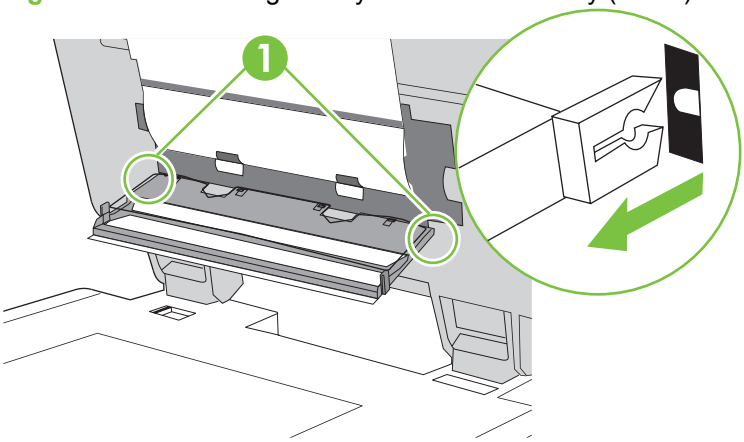
The mylar-holder assembly should drop open.

Figure 5-11 Removing the mylar-holder assembly (2 of 3)



2. Remove the mylar-holder assembly by unclipping two clips (callout 1) and pulling the assembly toward you.

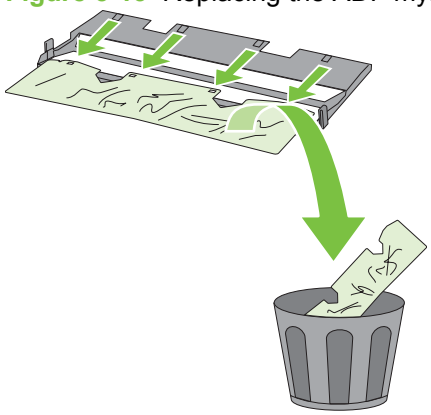
Figure 5-12 Removing the mylar-holder assembly (3 of 3)



ADF mylar shield

1. Remove the mylar-holder assembly. See Mylar-holder assembly on page 44.
2. Carefully unhook the mylar shield from the four tabs on the mylar-holder assembly, and then remove and discard the mylar shield.

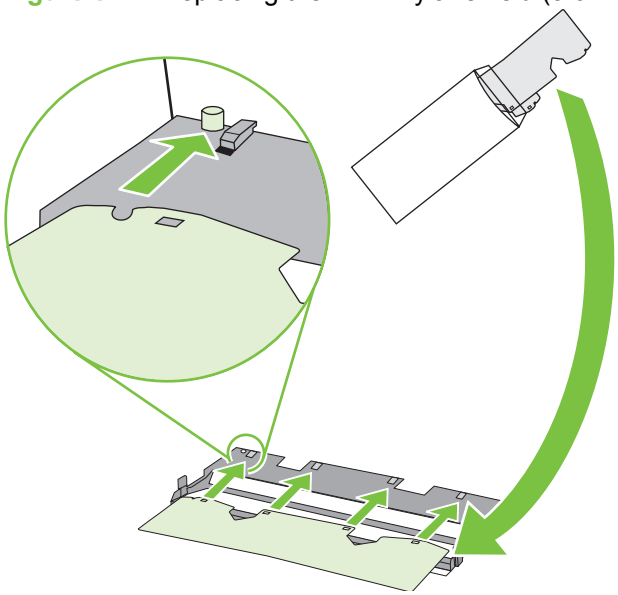
Figure 5-13 Replacing the ADF mylar shield (4 of 7)



3. Use a dry cloth to clean the white strips inside of the mylar-holder assembly.
4. Insert a new mylar shield, and clip it onto the four tabs on the mylar-holder assembly.

NOTE: Make sure that you do not leave fingerprints on the new mylar shield.

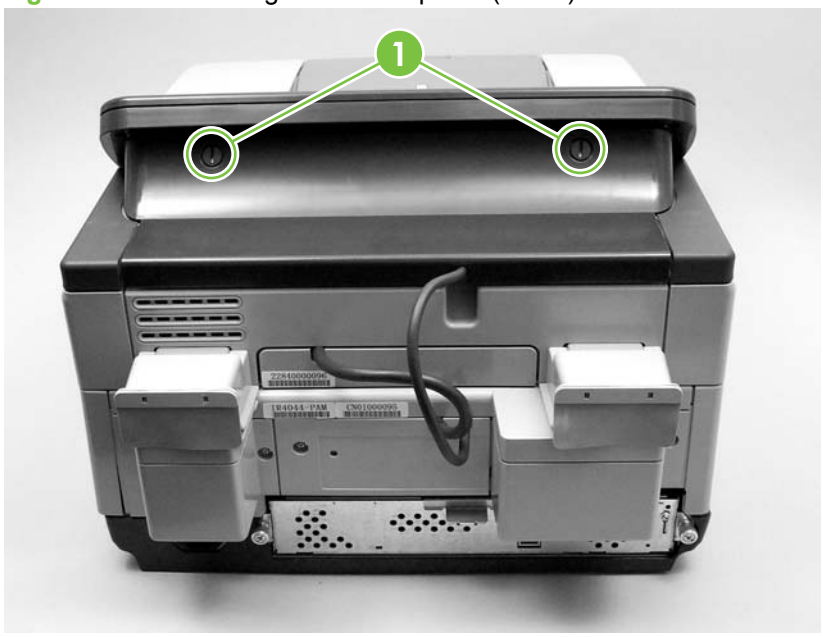
Figure 5-14 Replacing the ADF mylar shield (5 of 7)



Control panel

1. Turn the two latches (callout 1) counterclockwise 90° until they click.

Figure 5-15 Removing the control panel (1 of 2)



2. Rotate the top of the control panel away from the device and disconnect one connector to free the control panel from the device.

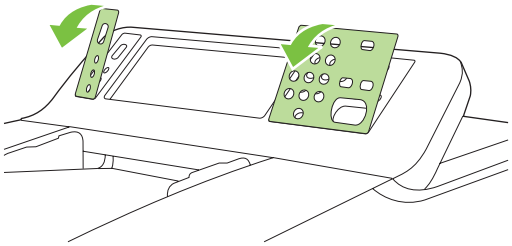
Figure 5-16 Removing the control panel (2 of 2)

3. Remove the control panel.

Control-panel overlays

Use a small flatblade screwdriver to release the two control-panel overlays.

Figure 5-17 Removing the control-panel overlays

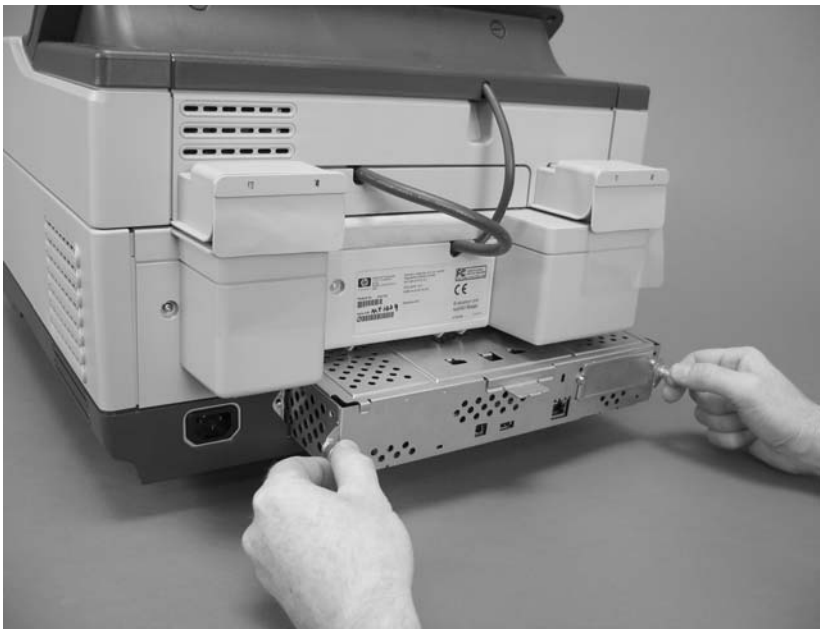


Formatter assemblies

Formatter cage

Unscrew the thumb screws at the back of the device and use them to pull the formatter cage out of the unit.

Figure 5-18 Removing the formatter cage

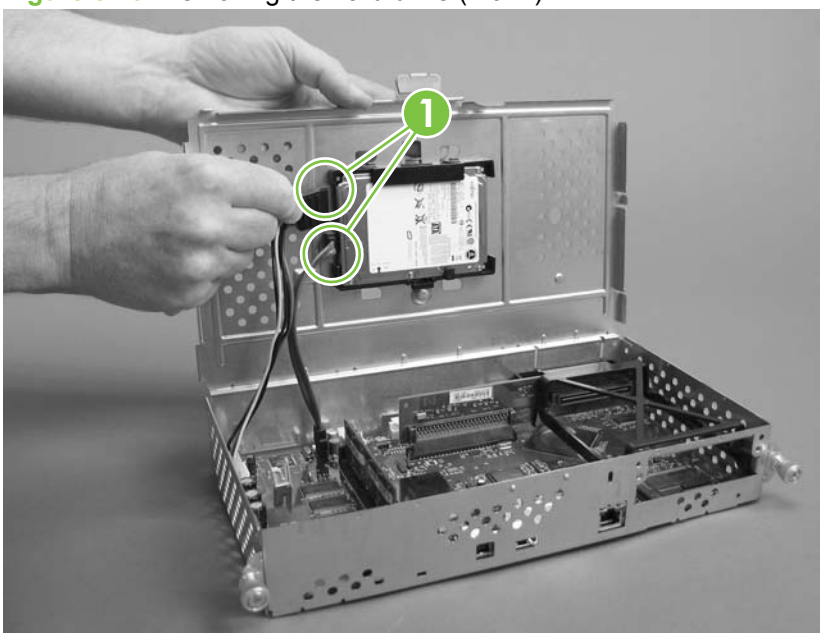


Hard-disk drive

⚠ **WARNING!** The product contains components that are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation. If an ESD-protected workstation is not available, discharge body static by grasping the device chassis before touching an ESD-sensitive component. Ground the device chassis before servicing the product.

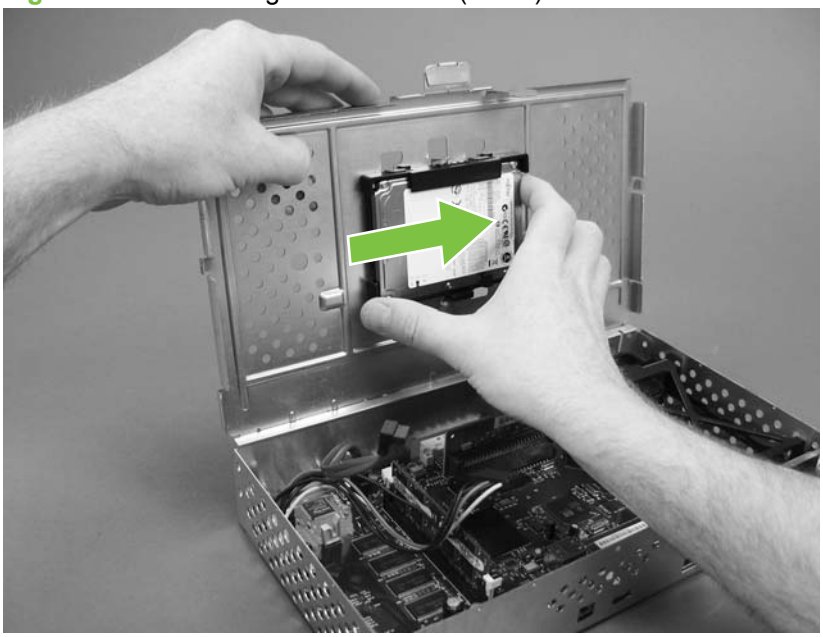
1. Remove the formatter cage (see Formatter cage on page 49), open the formatter-cage door, and then disconnect the hard-disk drive cables (callout 1) from the hard-disk drive.

Figure 5-19 Removing the hard drive (1 of 2)



2. Slide the hard-disk drive to the right to remove it.

Figure 5-20 Removing the hard drive (2 of 2)

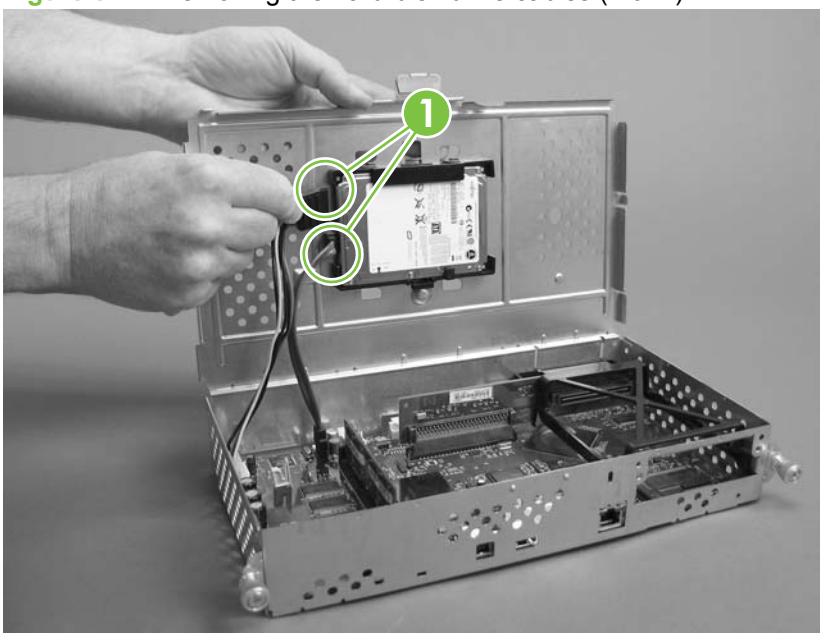


Hard-disk drive cables

⚠ **WARNING!** The product contains components that are sensitive to electrostatic discharge (ESD). Always perform service work at an ESD-protected workstation. If an ESD-protected workstation is not available, discharge body static by grasping the device chassis before touching an ESD-sensitive component. Ground the device chassis before servicing the product.

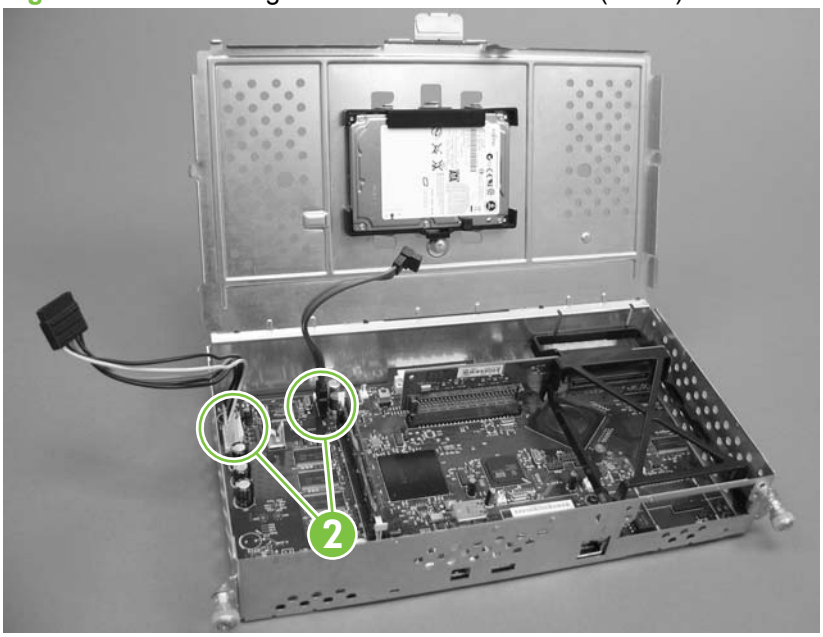
1. Remove the formatter cage (see Formatter cage on page 49), open the formatter-cage door, and then disconnect the hard-disk drive cables from the hard-disk drive (callout 1).

Figure 5-21 Removing the hard-disk drive cables (1 of 2)



2. Disconnect the hard-disk-drive cables from the formatter (callout 2).

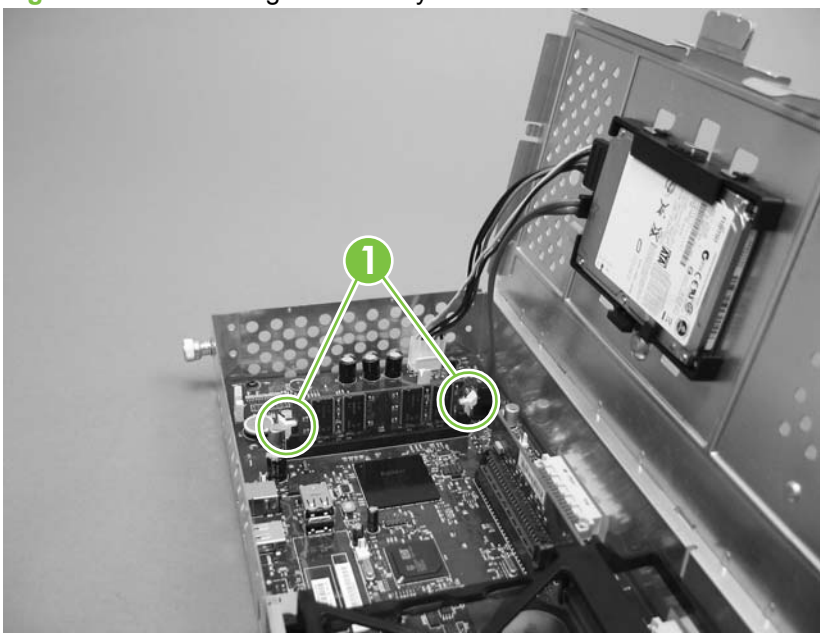
Figure 5-22 Removing the hard-disk drive cables (2 of 2)



Memory DIMM

1. Push down on the two tabs (callout 1) to release the memory DIMM.

Figure 5-23 Removing the memory DIMM



2. Lift the DIMM out of the formatter.

Hinge flaps

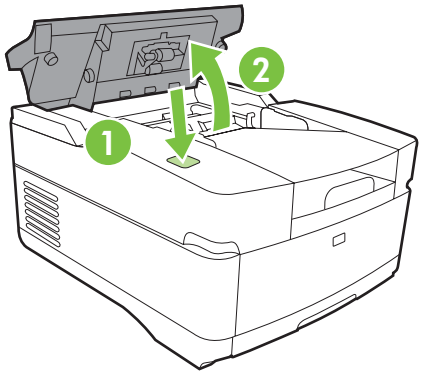
Slide a small flat blade screwdriver between the hinge flaps (callout 1) and their housing and then gently pry the flaps away from the device.

Figure 5-24 Removing the hinge flaps

Paper input tray

1. Open the ADF top cover.

Figure 5-25 Removing the pickup-roller cover (1 of 2)



2. Pull the hinge out of its hole on the left side of the paper input tray, and then slide the tray toward the left side of the device to remove the tray.

Figure 5-26 Removing the paper input tray (2 of 2)

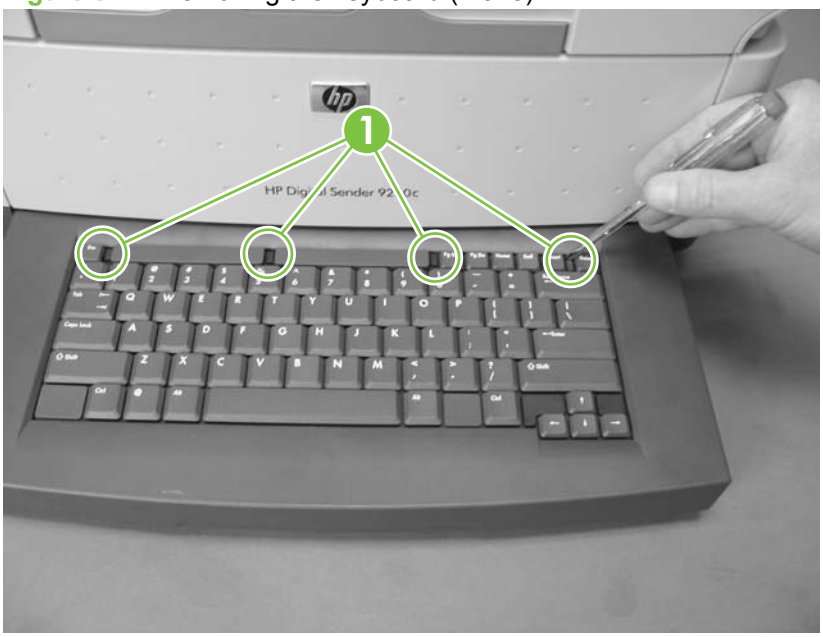
External components and covers

- Keyboard
- Control-panel lower cover
- Control-panel upper cover
- Control-panel cover assembly
- External control-panel cable
- Output bin base cover or output bin extender
- Output bin paper lever
- ADF right cover
- ADF right-corner cover
- ADF left cover
- ADF left-corner cover
- ADF rear cover
- Scanner right cover
- Scanner left cover
- Scanner front cover
- Scanner rear cover
- Right hinge cover
- Left hinge cover
- Upper hinge cover

Keyboard

1. Pull out the keyboard tray.
2. Use a small flat blade screwdriver to slide four tabs (callout 1) toward the keys.

Figure 5-27 Removing the keyboard (1 of 3)

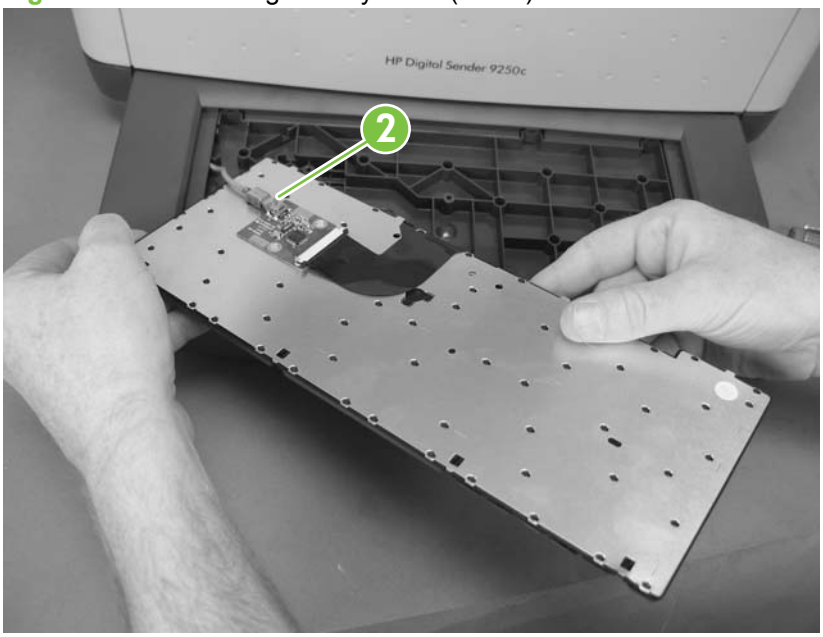


3. Use the screwdriver to lift the keyboard slightly, and then slowly rotate the keyboard away from the tray.

Figure 5-28 Removing the keyboard (2 of 3)

4. Turn the keyboard over, disconnect one cable (callout 2), and then lift the keyboard away from the device.

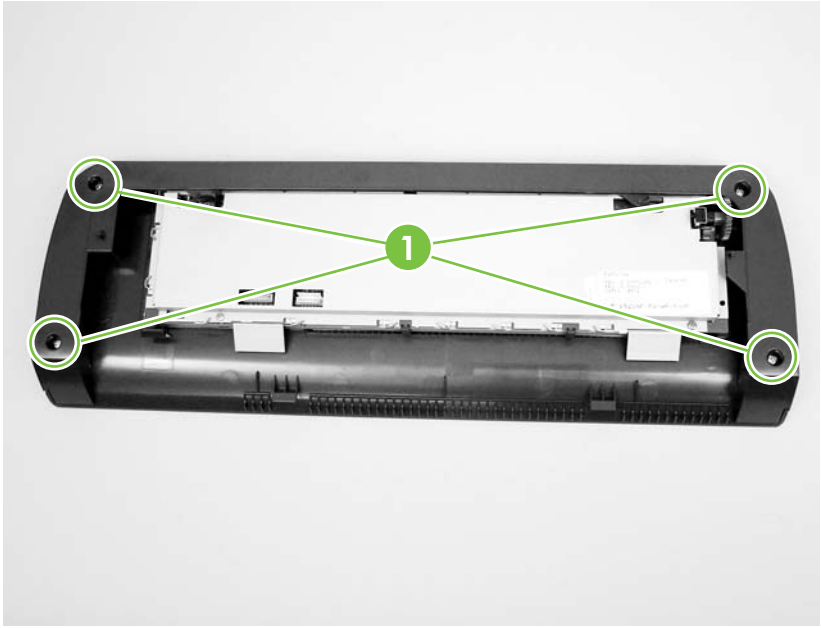
Figure 5-29 Removing the keyboard (3 of 3)



Control-panel lower cover

1. Remove the control panel. See Control panel on page 47.
2. Remove four screws (callout 1).

Figure 5-30 Removing the control-panel lower cover

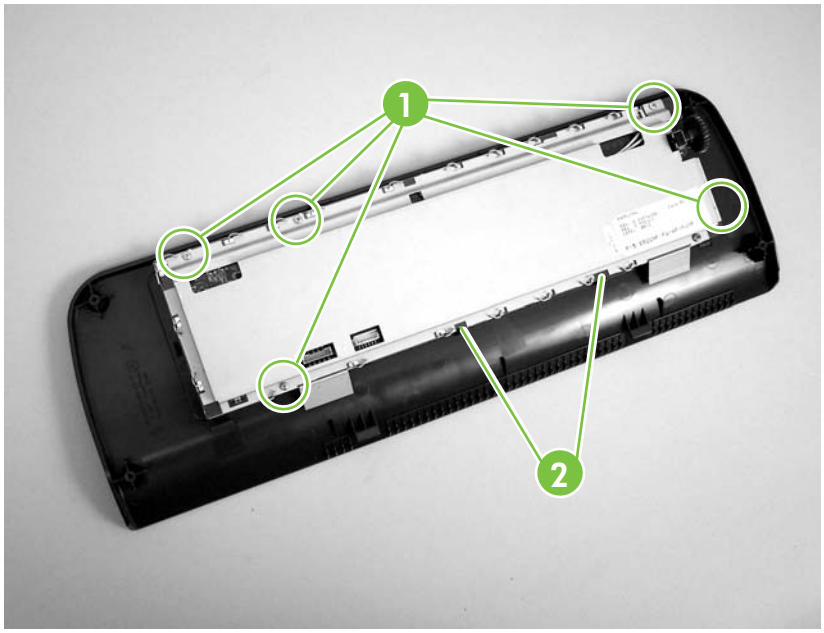


3. Remove the control-panel lower cover.

Control-panel upper cover

1. Remove the following items:
   - Control panel. See Control panel on page 47.
   - Control-panel lower cover. See Control-panel lower cover on page 58.
2. Remove five screws (callout 1) in the back of the control panel, and pull two plastic tabs (callout 2) toward you to release the control-panel upper cover.

   Figure 5-31 Removing the control-panel upper cover

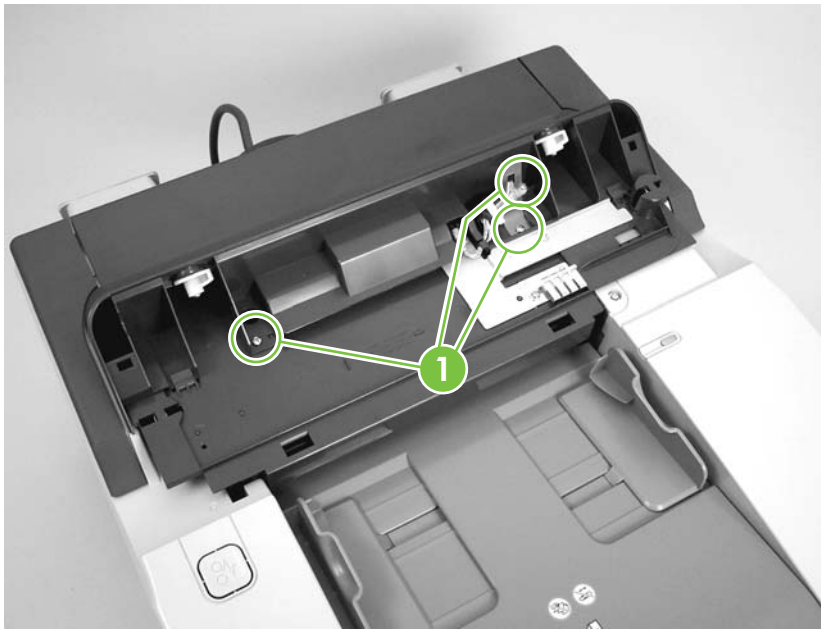


3. Remove the control-panel upper cover.

Control-panel cover assembly

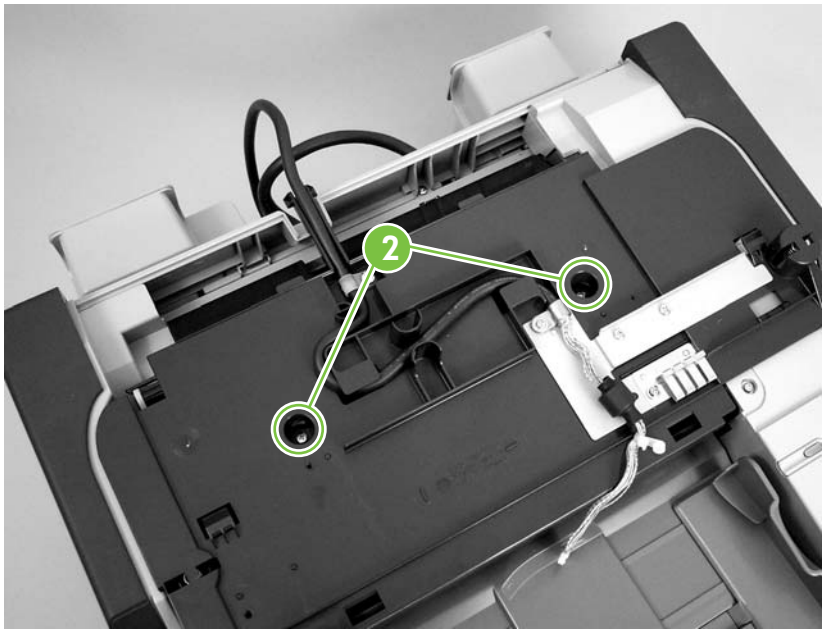
1. Remove the control panel. See Control panel on page 47.
2. Remove three screws (callout 1).

Figure 5-32 Removing the control-panel cover assembly (1 of 6)



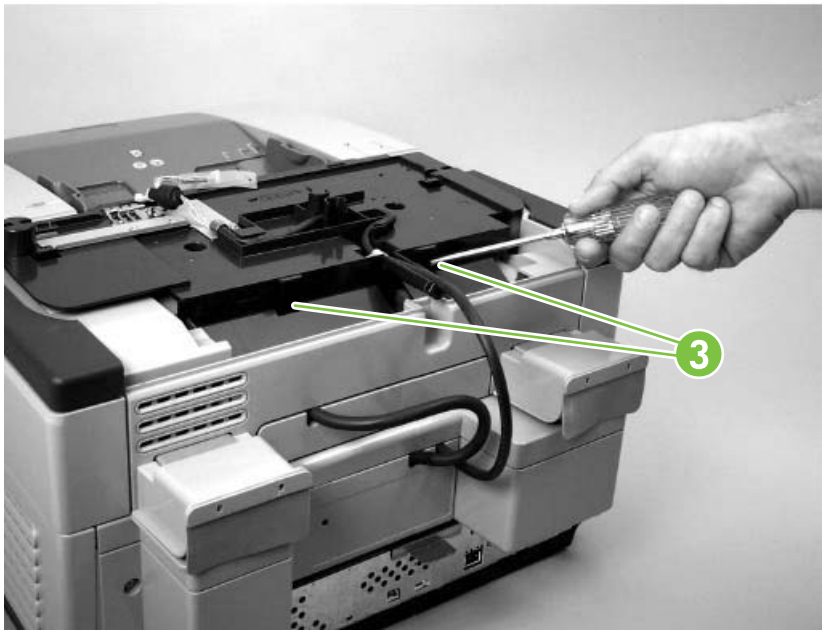
3. Slide the rear control-panel cover past the latches and remove the cover.
4. Remove two screws (callout 2).

Figure 5-33 Removing the control-panel cover assembly (2 of 6)



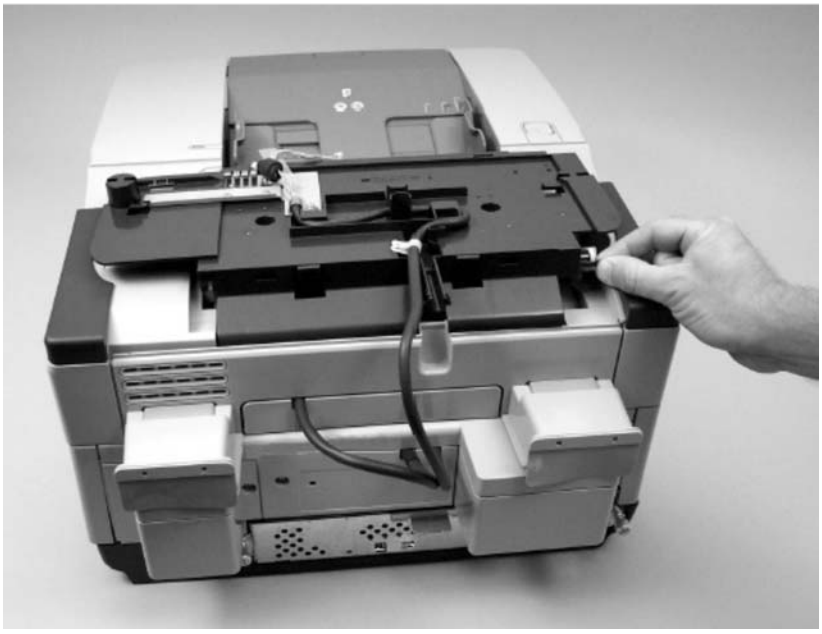
5. At the back of the device, use a flat blade screwdriver to pry two tabs (callout 3) toward you at the bottom ends of the tabs.

Figure 5-34 Removing the control-panel cover assembly (3 of 6)



6. Unhook the white plastic arm by gently pulling the tab toward you.

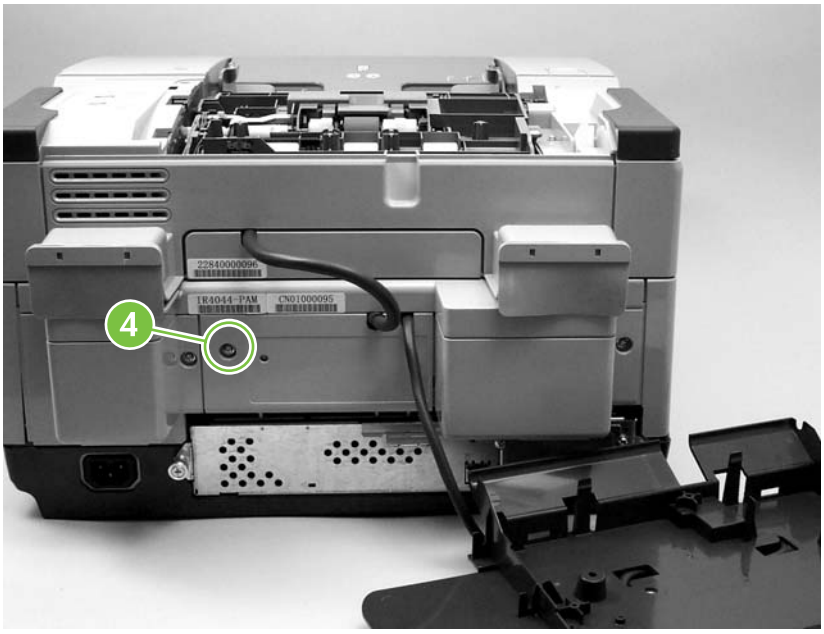
Figure 5-35 Removing the control-panel cover assembly (4 of 6)



7. Lift the control-panel cover assembly off of the device, rotate the front of the assembly toward the back of the device, and then set the assembly down on the work surface.

8. Remove one screw (callout 4).

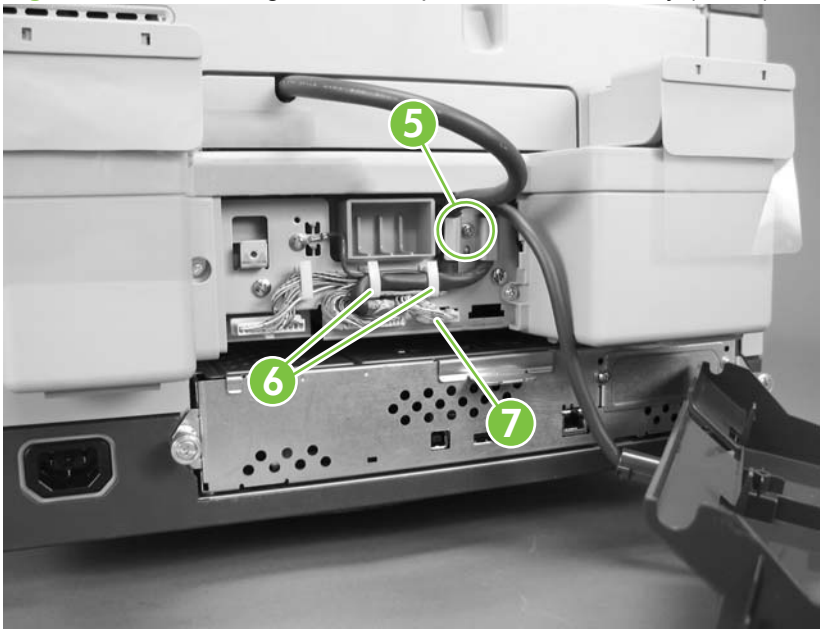
Figure 5-36 Removing the control-panel cover assembly (5 of 6)



9. Remove the scanner rear cover by firmly pulling the cover toward you.

10. Remove one screw (callout 5) to release the metal wire clip, open two cable guides (callout 6), and then disconnect one cable (callout 7) to release the control-panel cover assembly from the device.

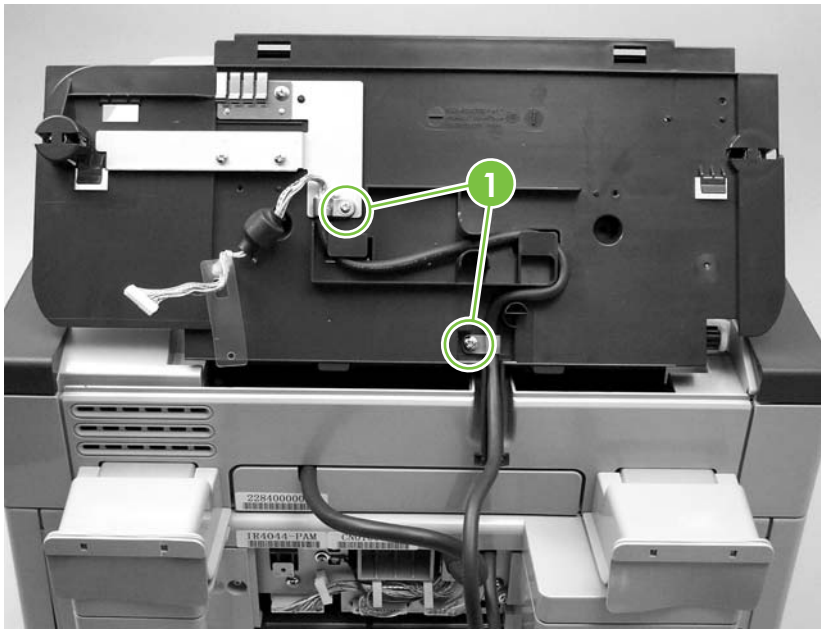
Figure 5-37 Removing the control-panel cover assembly (6 of 6)



External control-panel cable

1. Perform steps 1 through 3 of removing the control panel cover assembly. See Control-panel cover assembly on page 60.
2. Remove two screws (callout 1).

Figure 5-38 Removing the external control-panel cable



3. Perform steps 7 through 9 of removing the control panel cover assembly.
4. Remove the external control-panel cable.

NOTE: During reinstallation, make sure that the cable is routed correctly.

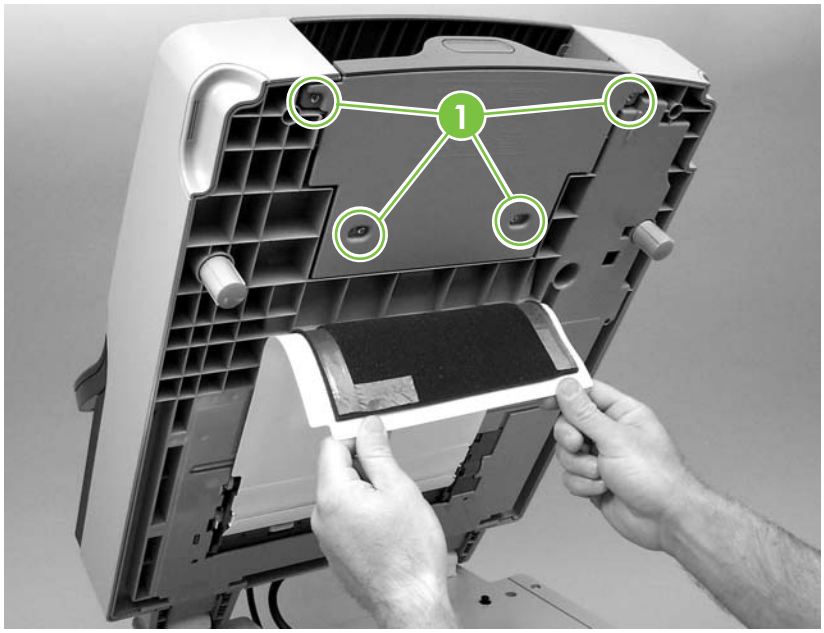
Output bin base cover or output bin extender

1. Remove the mylar replacement kit (envelope).
2. Gently peel back the white scan background far enough to uncover four screws (callout 1).

> **NOTE:** The foam backing should not tear if the white scan background is peeled back gently.

3. Remove four screws (callout 1) and remove the output bin base cover or the output bin base extender.

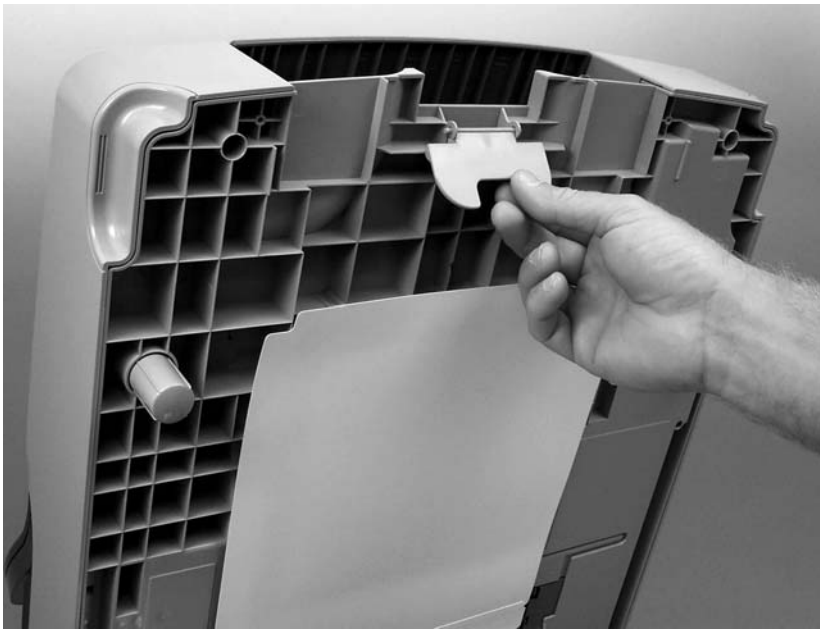
Figure 5-39 Removing the output bin base cover or output bin extender



Output bin paper lever

1. Remove the output bin base cover or the output bin extender. See Output bin base cover or output bin extender on page 64.
2. Remove the output bin paper lever.

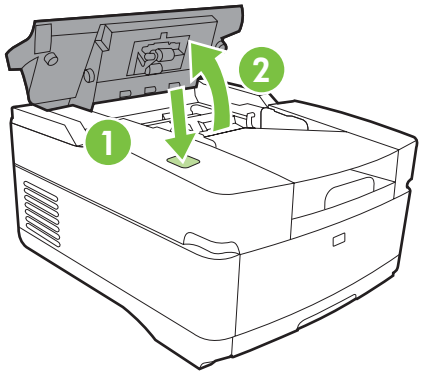
Figure 5-40 Removing the output bin paper lever



ADF right cover

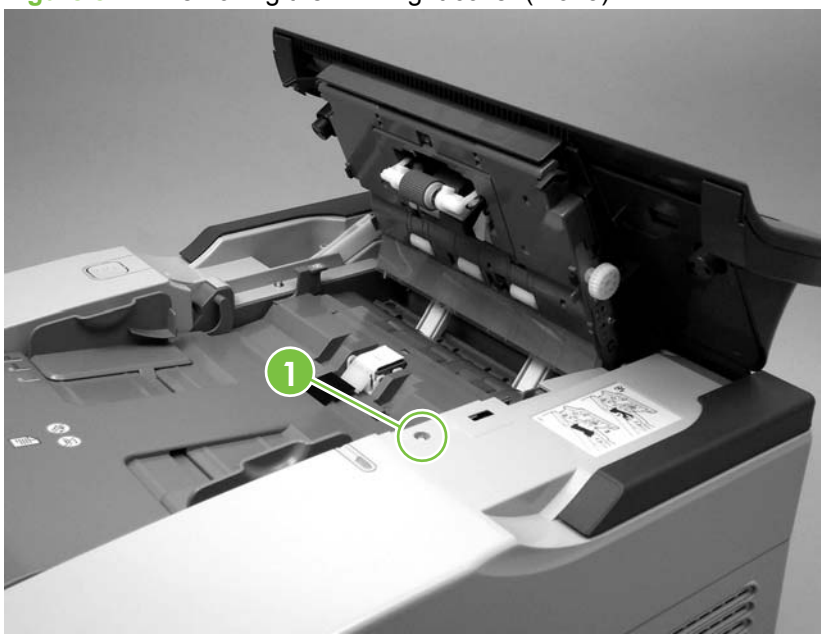
1. Open the ADF top cover.

Figure 5-41 Removing the ADF right cover (1 of 3)



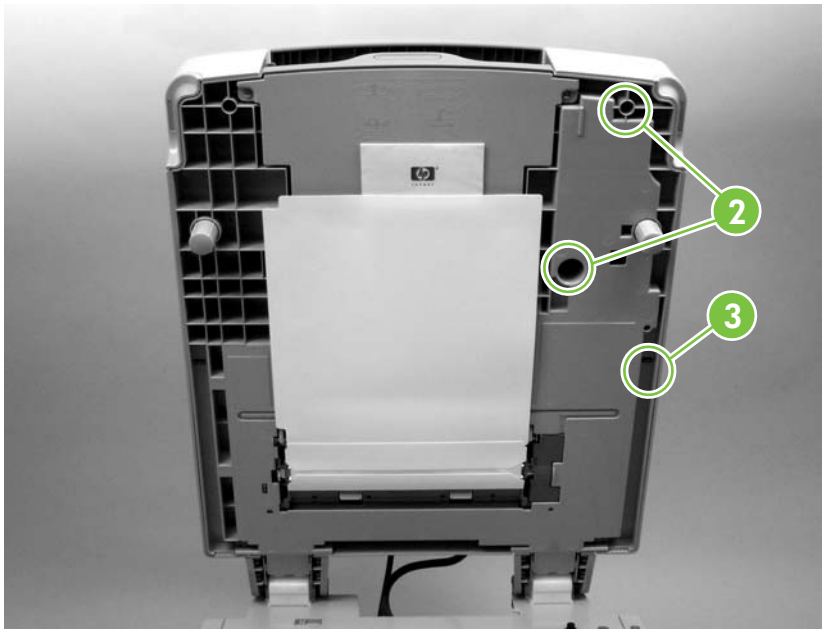
2. Remove the paper input tray. See Paper input tray on page 54.
3. Remove one screw (callout 1).

Figure 5-42 Removing the ADF right cover (2 of 3)



4. Open the ADF, remove two screws (callout 2), and release one tab (callout 3).

Figure 5-43 Removing the ADF right cover (3 of 3)



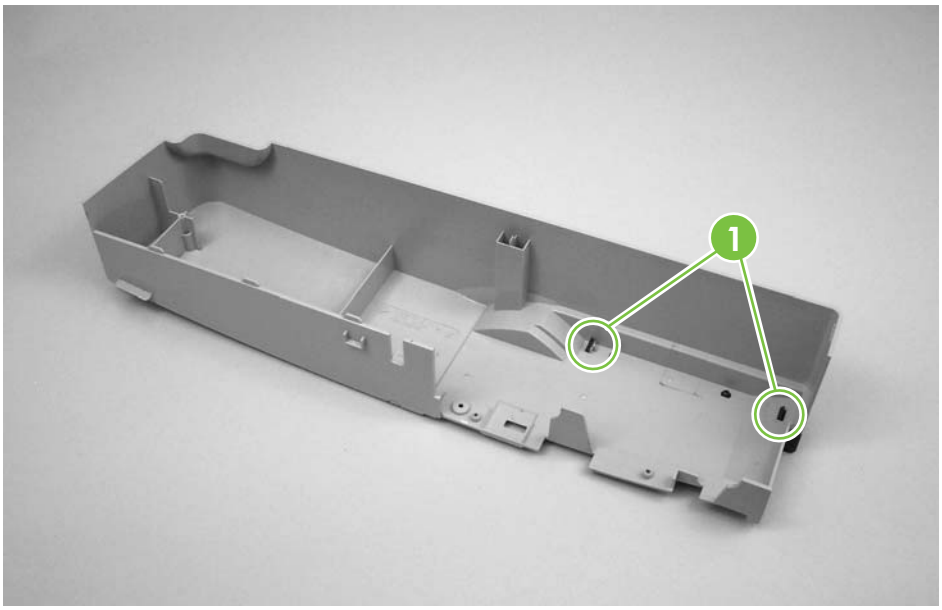
5. Lift off the ADF right cover.

NOTE: During reinstallation make sure that the rear corner of the ADF right cover is positioned first.

ADF right-corner cover

1. Remove the ADF right cover. See ADF right cover on page 66.
2. Release two tabs (callout 1).

Figure 5-44 Removing the ADF right-corner cover

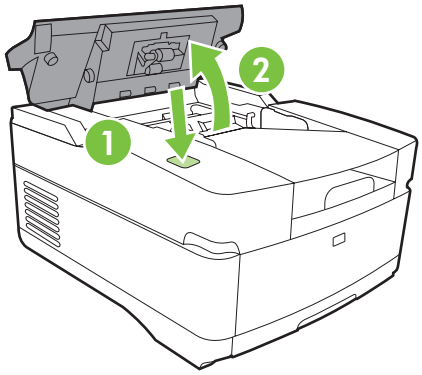


3. Remove the ADF right-corner cover.

ADF left cover

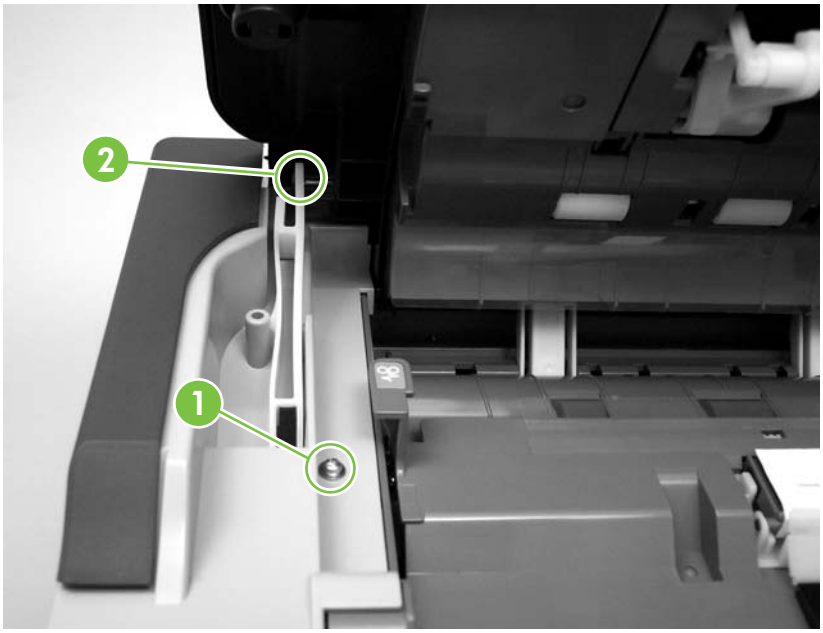
1. Open the ADF top cover.

Figure 5-45 Removing the ADF left cover (1 of 3)



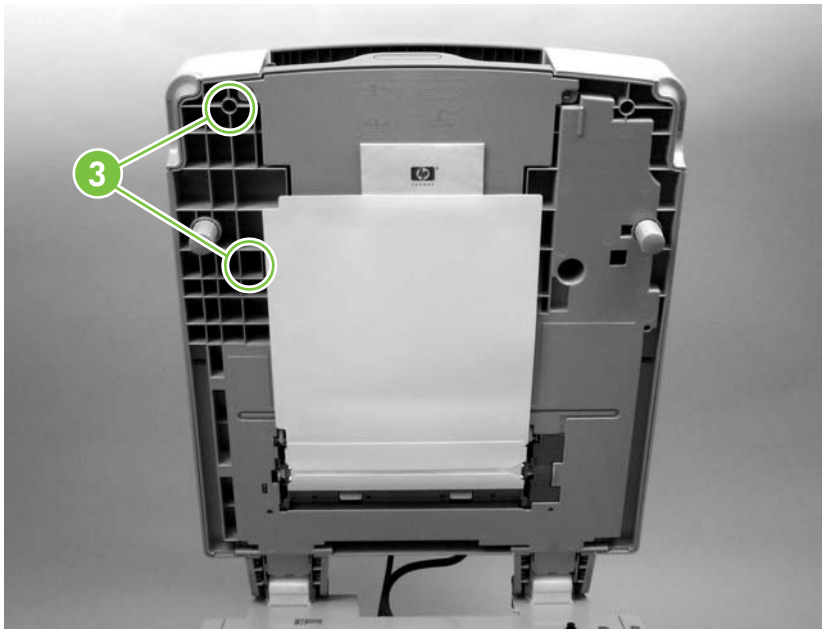
2. Remove one screw (callout 1) and release the arm (callout 2).

Figure 5-46 Removing the ADF left cover (2 of 3)



3. Open the ADF and remove two screws (callout 3).

Figure 5-47 Removing the ADF left cover (3 of 3)

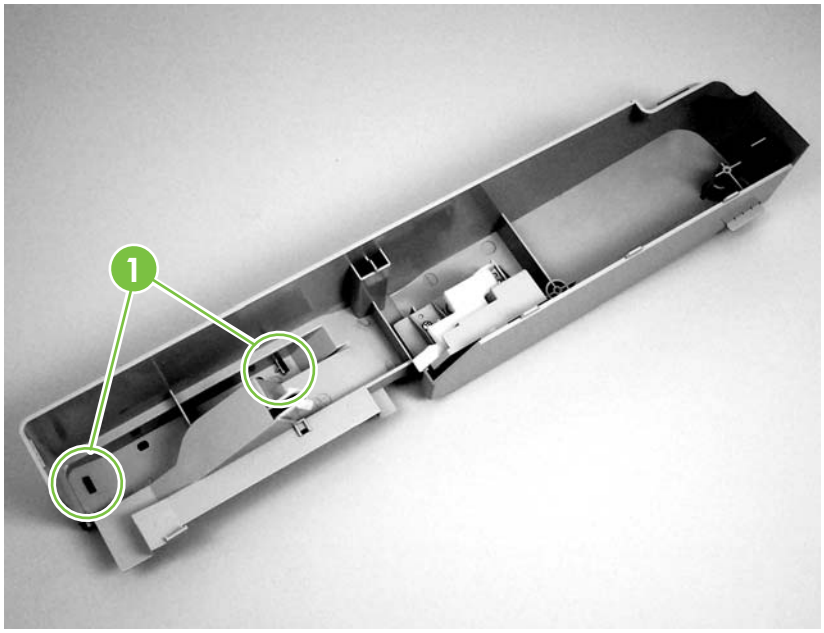


4. Lift off the ADF left cover.

ADF left-corner cover

1. Remove the ADF left cover. See ADF left cover on page 69.
2. Release two tabs (callout 1).

Figure 5-48 Removing the ADF left-corner cover

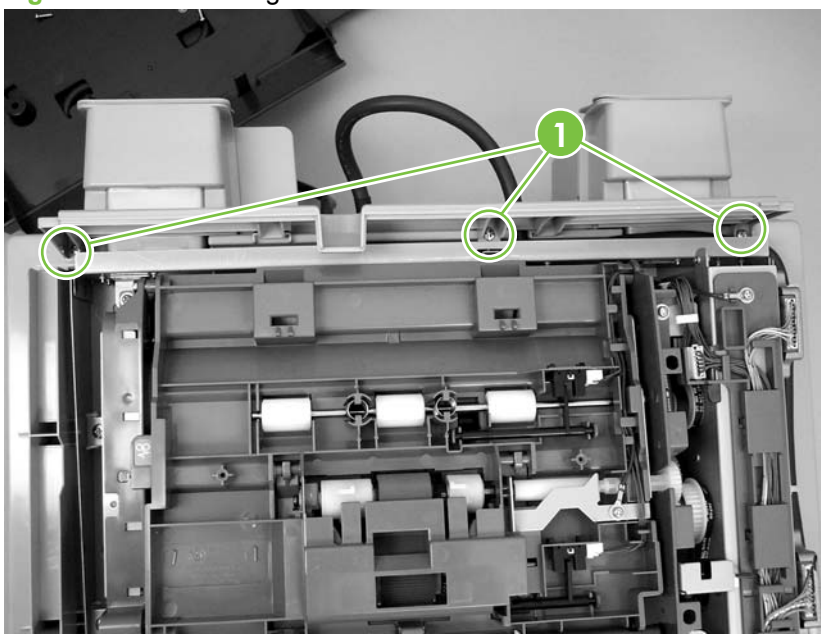


3. Remove the ADF left-corner cover.

ADF rear cover

1. Remove the following covers:
   - Control panel cover assembly. See Control-panel cover assembly on page 60.
   - ADF right cover. See ADF right cover on page 66.
   - ADF left cover. See ADF left cover on page 69.
2. Remove three screws (callout 1).

Figure 5-49 Removing the ADF rear cover

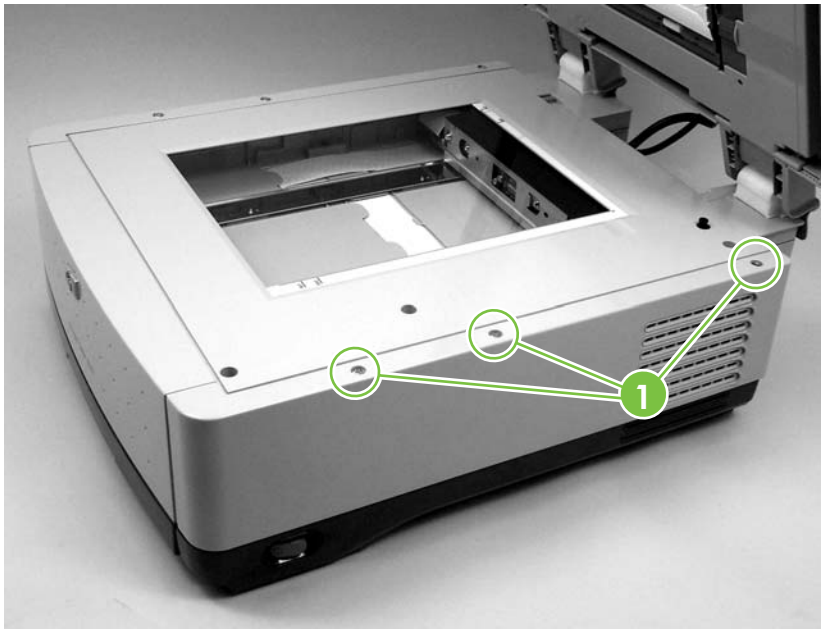


3. Remove the ADF rear cover.

Scanner right cover

1. Remove three screws (callout 1).

Figure 5-50 Removing the scanner right cover

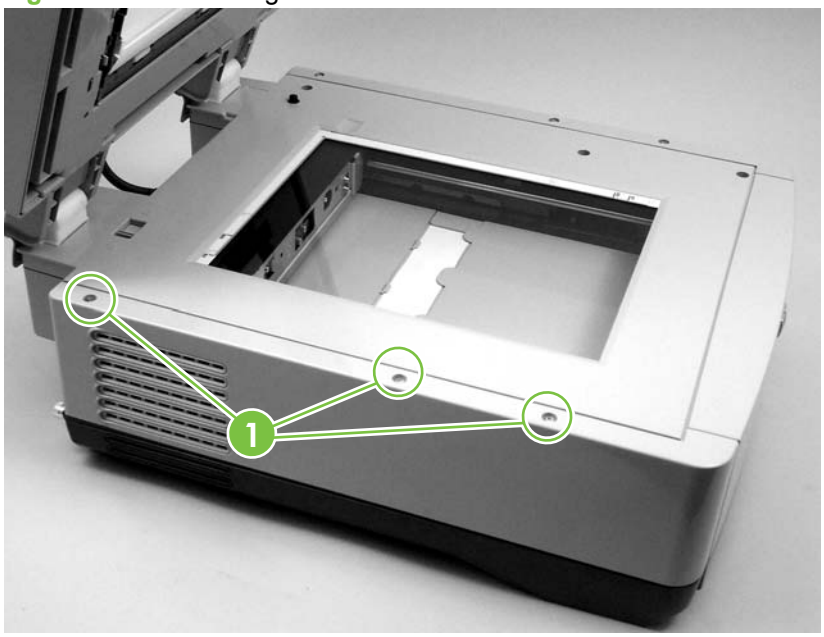


2. Remove the scanner right cover.

Scanner left cover

1. Remove three screws (callout 1).

Figure 5-51 Removing the scanner left cover

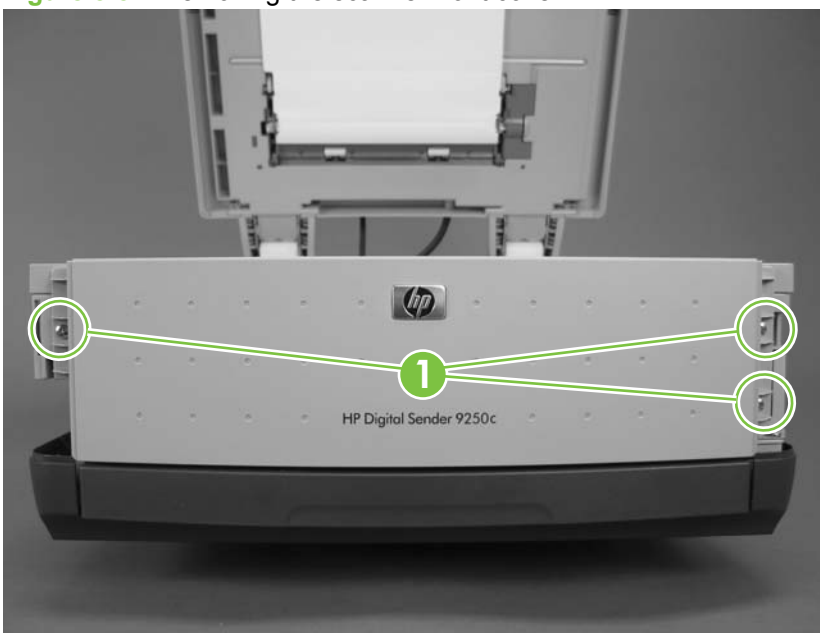


2. Remove the scanner left cover.

Scanner front cover

1. Remove the following covers:
   - Scanner right cover. See Scanner right cover on page 73.
   - Scanner left cover. See Scanner left cover on page 74.
2. Remove three screws (callout 1).

Figure 5-52 Removing the scanner front cover



3. Remove the scanner front cover.

Scanner rear cover

1. Remove one screw (callout 1).

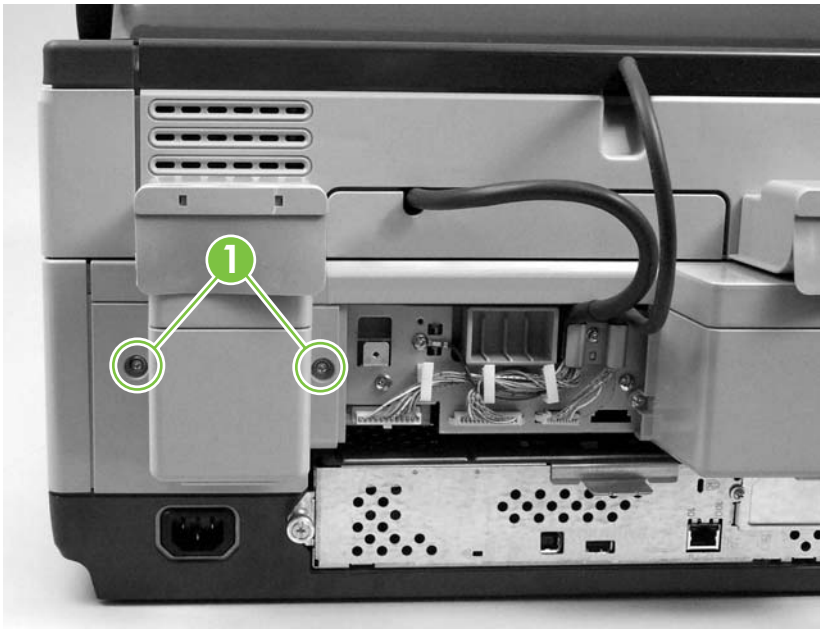
Figure 5-53 Removing the scanner rear cover

2. Remove the scanner rear cover by firmly pulling the cover toward you and slightly to the left. Slide the scanner rear cover slightly left to clear the ridge on the right side.

Right hinge cover

1. Remove the scanner rear cover. See Scanner rear cover on page 76.
2. Remove two screws (callout 1).

Figure 5-54 Removing the right hinge cover

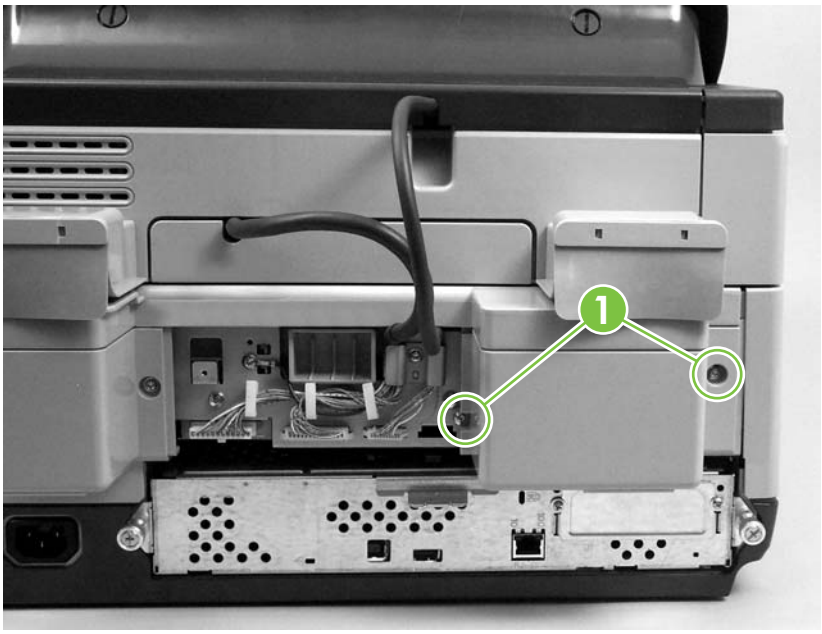


3. Remove the right hinge cover.

Left hinge cover

1. Remove the scanner rear cover. See Scanner rear cover on page 76.
2. Remove two screws (callout 1).

Figure 5-55 Removing the left hinge cover

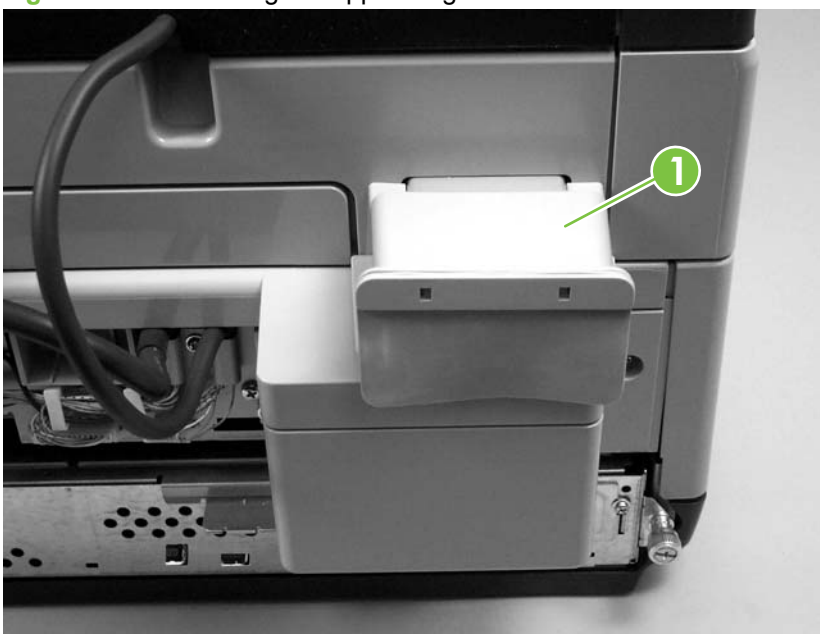


3. Remove the left hinge cover.

Upper hinge cover

Firmly pry off the upper hinge cover (callout 1).

Figure 5-56 Removing the upper hinge cover



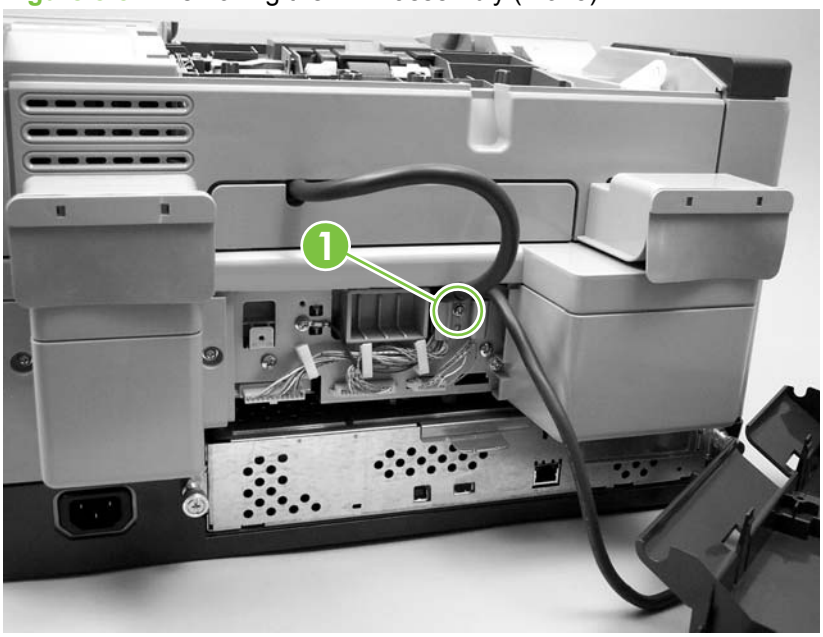
Internal components

- ADF assembly
- ADF jam access latch
- Right hinge guide
- Left hinge guide
- Damper cover, left damper spring, right damper spring, or damper base cover
- White mylar backing or white mylar backing spring
- Fan filter
- ADF cable
- Separation pad case
- Clear plastic paper guide
- White scan background
- Scanner controller board
- Flatbed scanner assembly
- Power supply
- Keyboard cable
- Power-switch assembly
- Scanner base fan
- Power plug
- SCB cable
- Internal control-panel cable

ADF assembly

1. Remove the scanner rear cover. See Scanner rear cover on page 76.
2. Remove one screw (callout 1) from the metal cable-retaining bracket, and then remove the bracket.

Figure 5-57 Removing the ADF assembly (1 of 3)

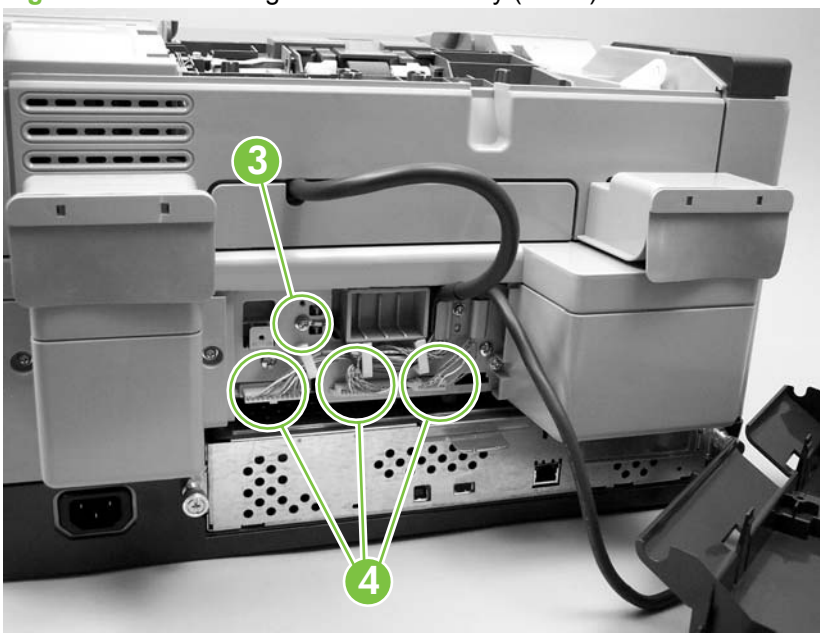


3. Unclip three wire clips (callout 2) and release the wires.

Figure 5-58 Removing the ADF assembly (2 of 3)

4. Remove one grounding screw and wire (callout 3), and disconnect three cable connectors (callout 4).

Figure 5-59 Removing the ADF assembly (3 of 3)



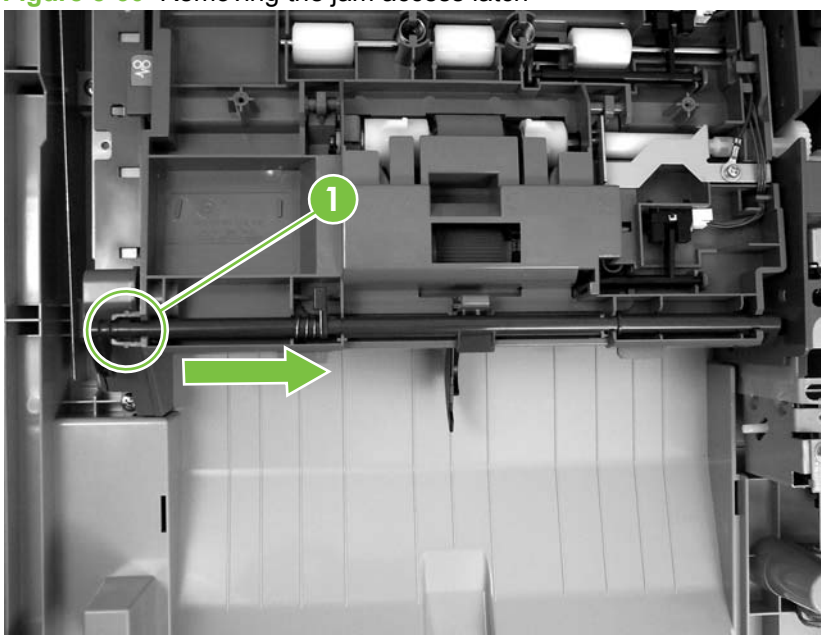
5. Remove the ADF assembly by lifting it up and lifting the rear hinges out of their sockets.

NOTE: Make sure you calibrate the scanner when necessary.

ADF jam access latch

1. Remove the following covers:
   - Control panel cover assembly. See Control-panel cover assembly on page 60.
   - ADF right cover. See ADF right cover on page 66.
   - ADF left cover. See ADF left cover on page 69.
   - ADF rear cover. See ADF rear cover on page 72.
2. Using your fingers or a flatblade screwdriver, separate two clips (callout 1) and shift the latch to the right so that the notches are aligned.

Figure 5-60 Removing the jam access latch

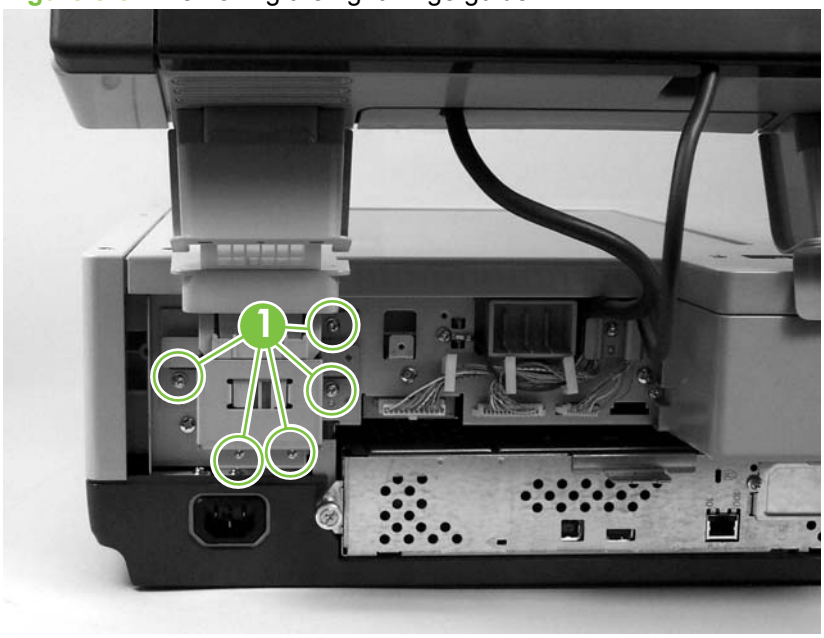


3. Remove the ADF jam access latch.

Right hinge guide

1. Remove the following covers:
   - ADF rear cover. See ADF rear cover on page 72.
   - Right hinge cover. See Right hinge cover on page 77.
2. Remove five screws (callout 1).

Figure 5-61 Removing the right hinge guide

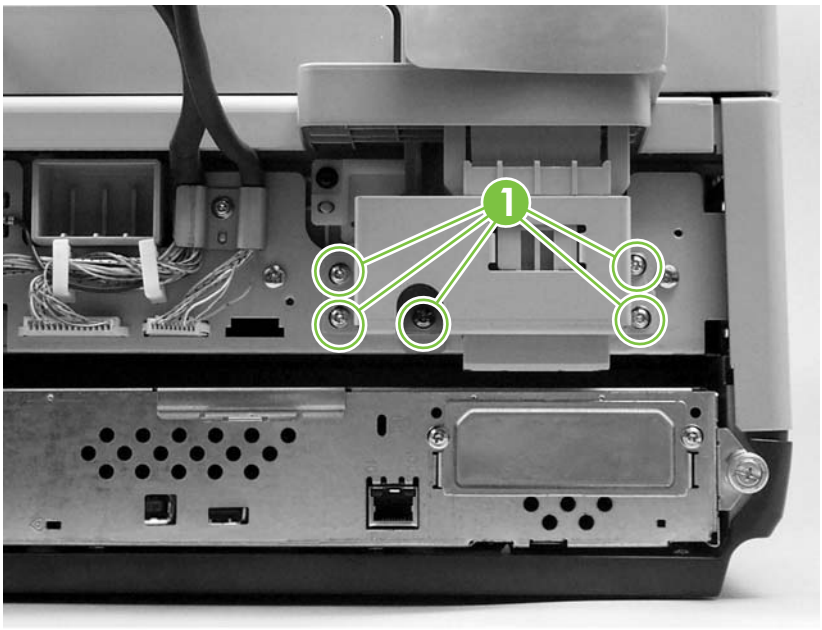


3. Lift the ADF up to release the right hinge guide.

Left hinge guide

1. Remove the following covers:
   - ADF rear cover. See ADF rear cover on page 72.
   - Left hinge cover. See Left hinge cover on page 78.
2. Remove five screws (callout 1).

Figure 5-62 Removing the left hinge guide

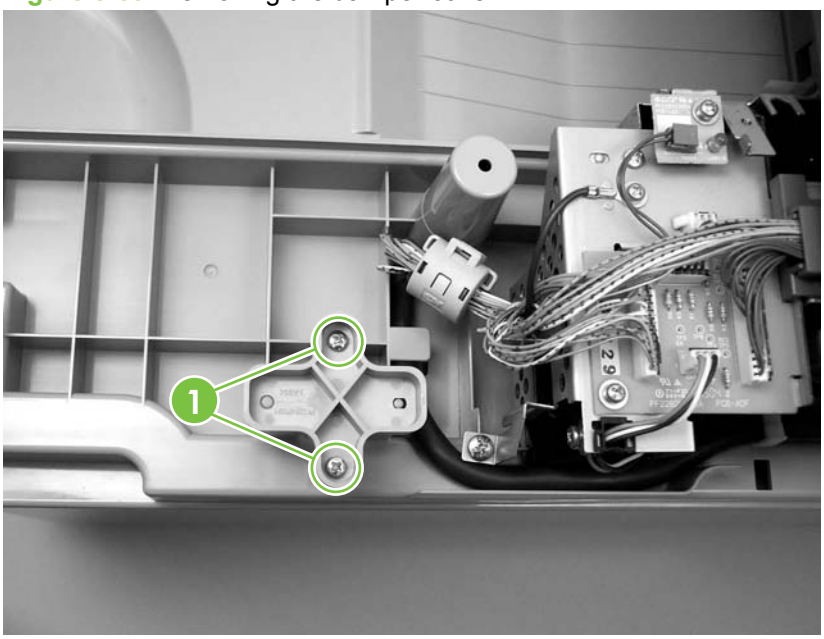


3. Pull down on the left hinge guide to remove it.

Damper cover, left damper spring, right damper spring, or damper base cover

1. Remove the ADF right cover, or the ADF left cover, or both covers, depending on the removal objective. See ADF right cover on page 66 or ADF left cover on page 69.
2. Remove two screws (callout 1).

Figure 5-63 Removing the damper cover



3. Remove the damper.

NOTE: Remove the damper spring cap by sliding it up through the hole.

4. Repeat steps 2 and 3 to remove the damper on the other side.

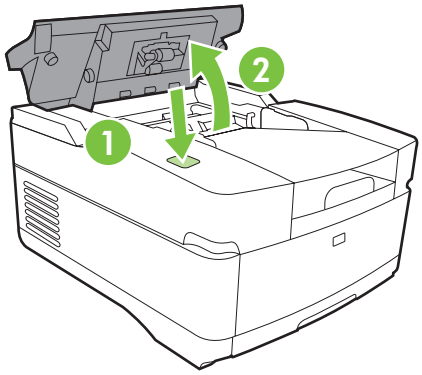
NOTE: During reinstallation, make sure that the oblong hole is directed toward the rear of the ADF, as shown in the illustration above.

NOTE: The left damper spring and the right damper spring are different. Make sure that the correct spring is reinstalled in the correct location.

White mylar backing or white mylar backing spring

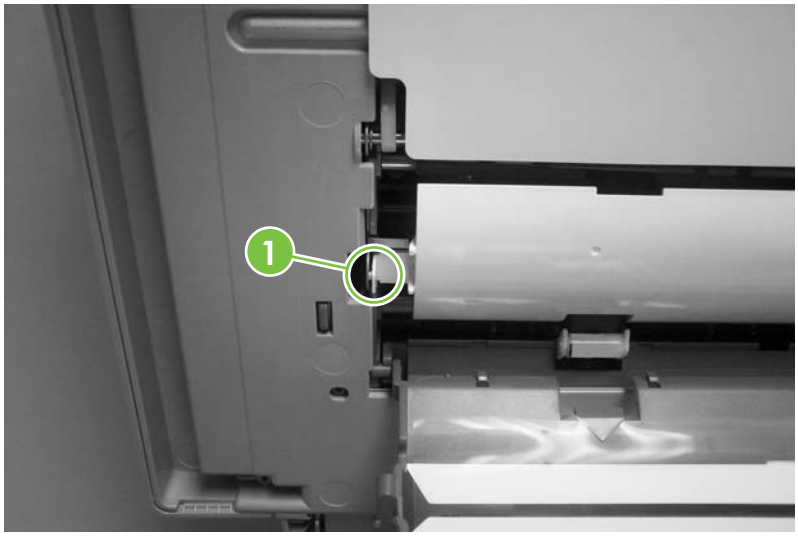
1. Open the ADF top cover.

Figure 5-64 Removing the white mylar backing or white mylar backing spring (1 of 2)



2. Open the mylar holder assembly.
3. Push in the tab on the left side of the white mylar backing (callout 1).

Figure 5-65 Removing the white mylar backing or white mylar backing spring (2 of 2)



4. Remove the white mylar backing or the white mylar backing springs.

NOTE: When reinstalling the white mylar backing springs, compress and twist the spring to make sure that it grips the pedestal on the back of the assembly.

Fan filter

1. Remove the scanner right cover. See Scanner right cover on page 73.
2. Remove the plastic guide.

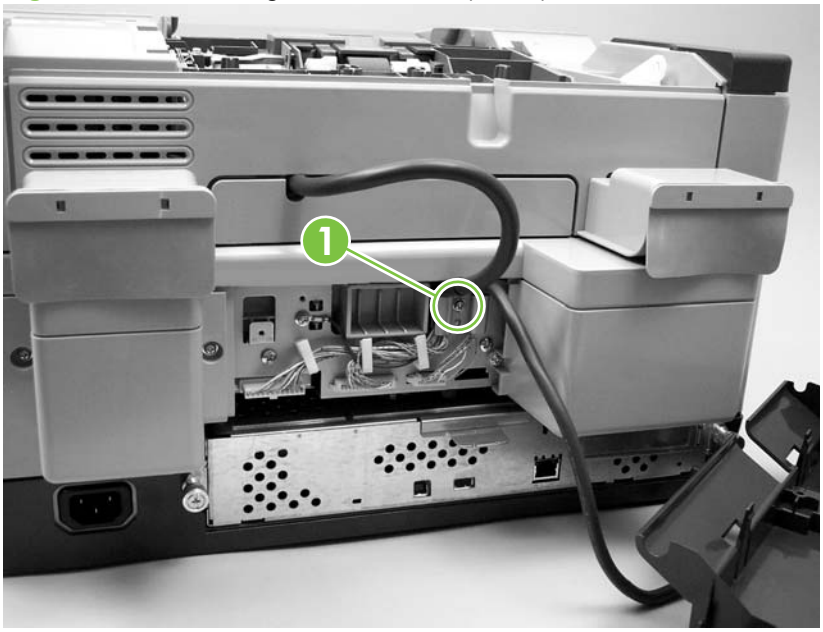
Figure 5-66 Removing the fan filter

3. Remove the fan filter.

ADF cable

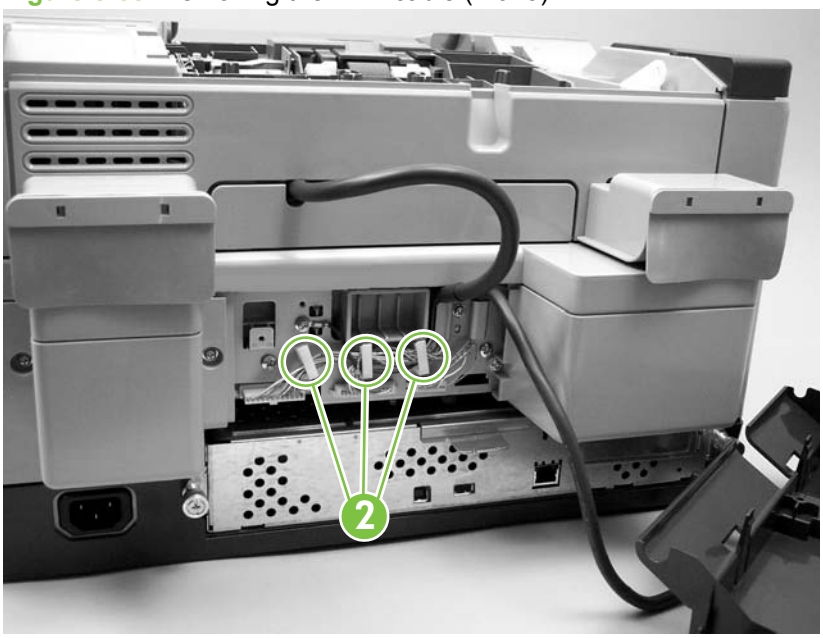
1. Remove the scanner rear cover. See Scanner rear cover on page 76.
2. Remove one screw (callout 1) from the metal cable retaining bracket and then remove the bracket.

Figure 5-67 Removing the ADF cable (1 of 5)



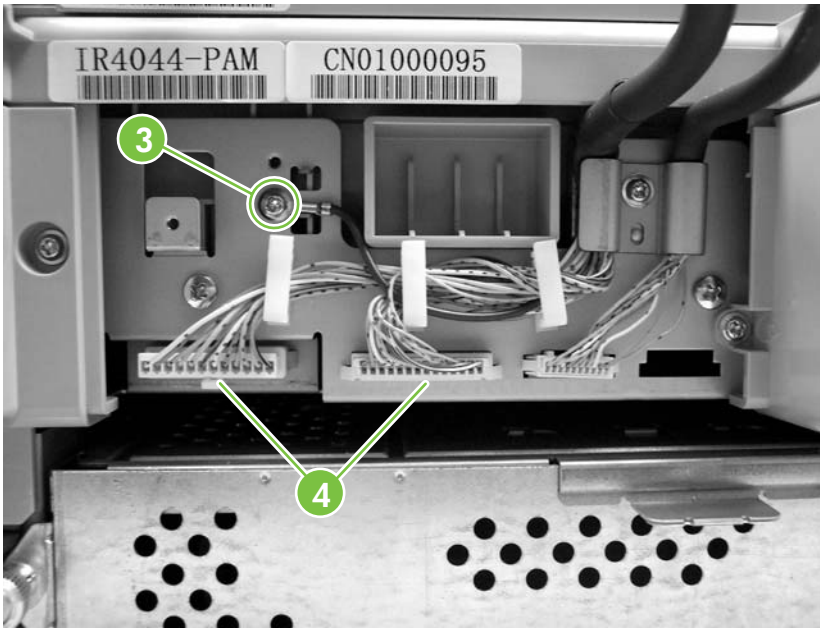
3. Unclip three wire clips (callout 2) and release the wires.

Figure 5-68 Removing the ADF cable (2 of 5)



4. Remove one grounding screw and wire (callout 3), and disconnect two connectors (callout 4).

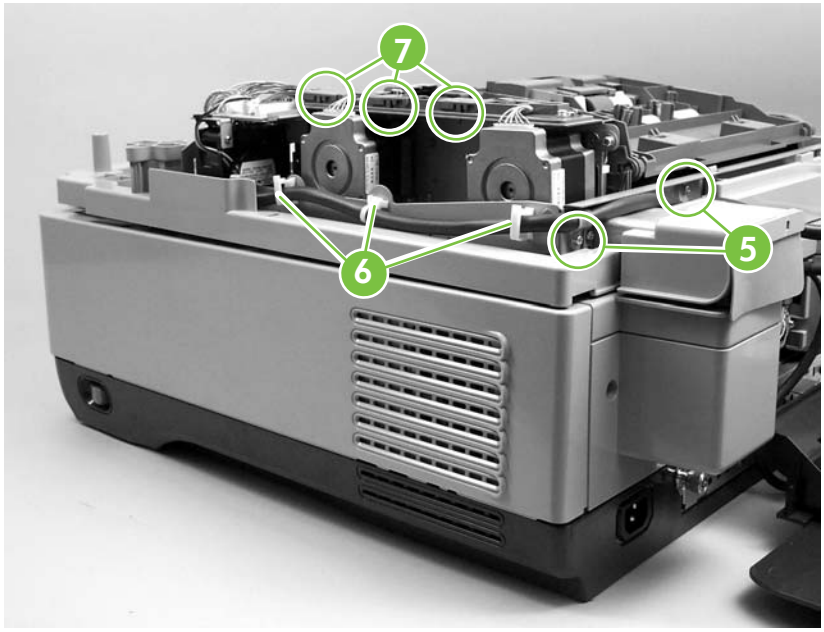
Figure 5-69 Removing the ADF cable (3 of 5)



5. Remove the ADF rear cover. See ADF rear cover on page 72.

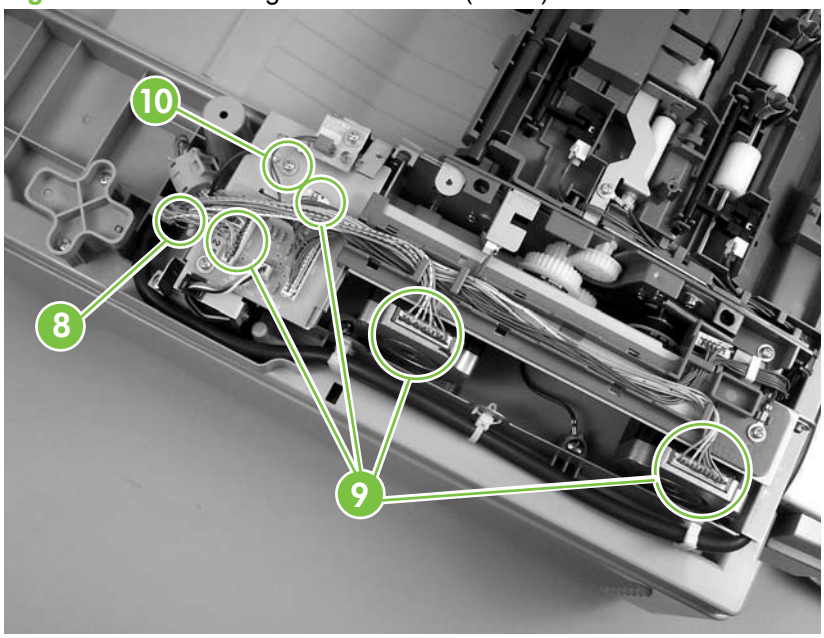
6. Remove two screws (callout 5), unclip three wire clips (callout 6), and remove three cable covers (callout 7).

Figure 5-70 Removing the ADF cable (4 of 5)



7. Unclip one wire clip (callout 8), disconnect four connectors (callout 9) and remove one grounding screw and wire (callout 10).

Figure 5-71 Removing the ADF cable (5 of 5)

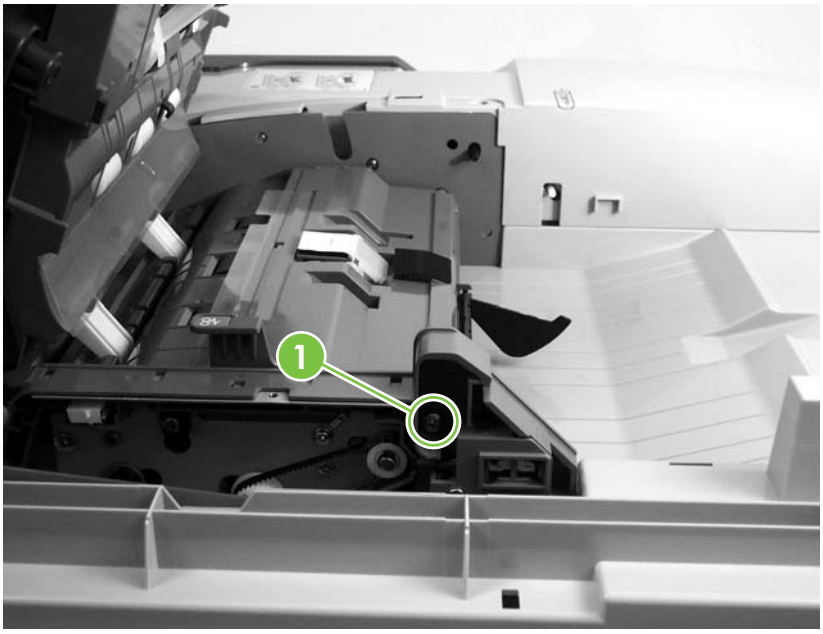


8. Remove the ADF cable.

Separation pad case

1. Remove the following items:
   - Paper input tray. See Paper input tray on page 54.
   - ADF left cover. See ADF left cover on page 69.
2. Remove one screw (callout 1).

Figure 5-72 Removing the separation pad case

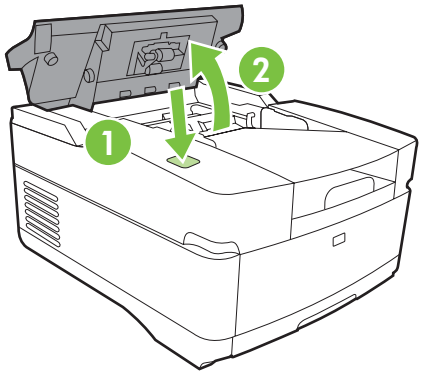


3. Slide the separation pad case to the right and lift up its left side in order to remove it.

Clear plastic paper guide

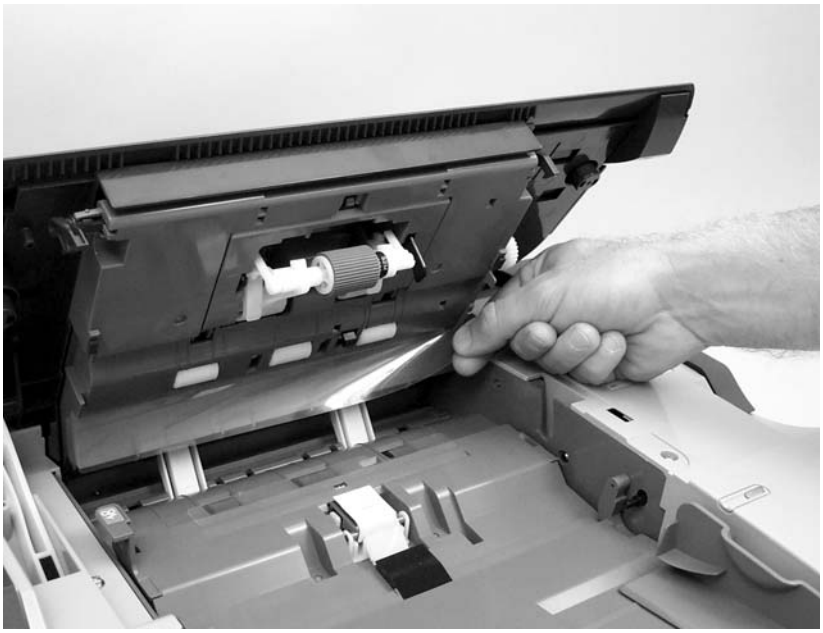
1. Open the ADF top cover.

Figure 5-73 Removing the clear plastic paper guide (1 of 2)



2. Peal back the clear plastic paper guide to remove it.

Figure 5-74 Removing the clear plastic paper guide (2 of 2)

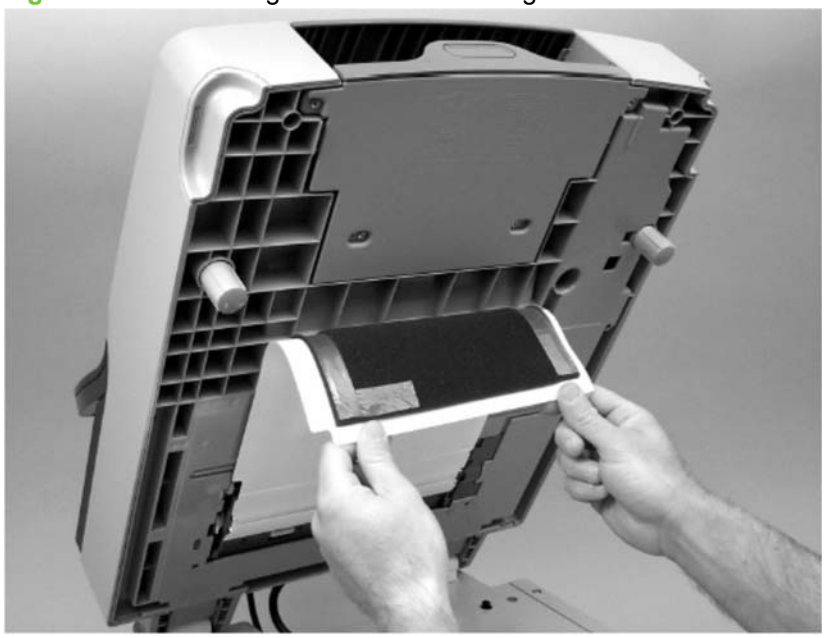


White scan background

1. Open the ADF cover.
2. Remove the mylar replacement kit (envelope).
3. Gently peel off the white scan background.

NOTE: The foam backing should not tear if the white scan background is peeled back gently.

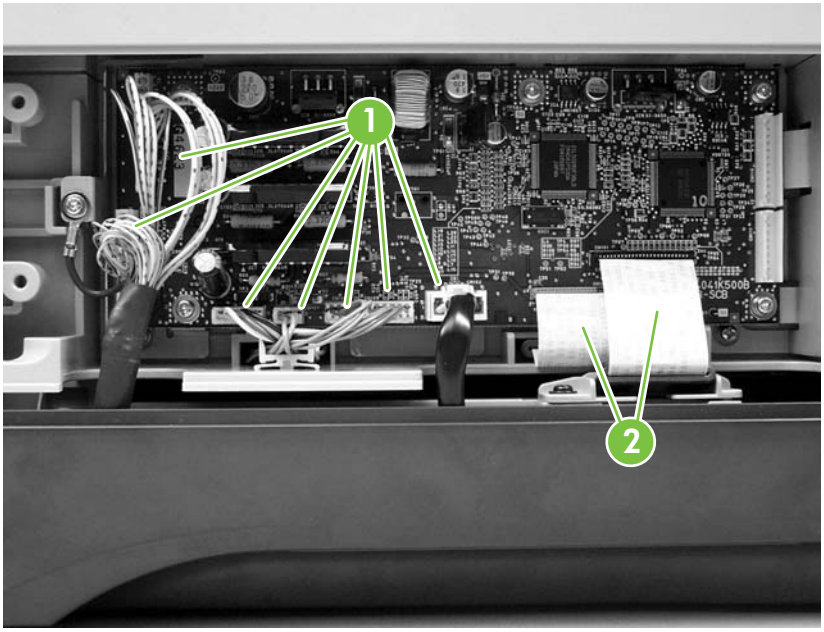
Figure 5-75 Removing the white scan background



Scanner controller board

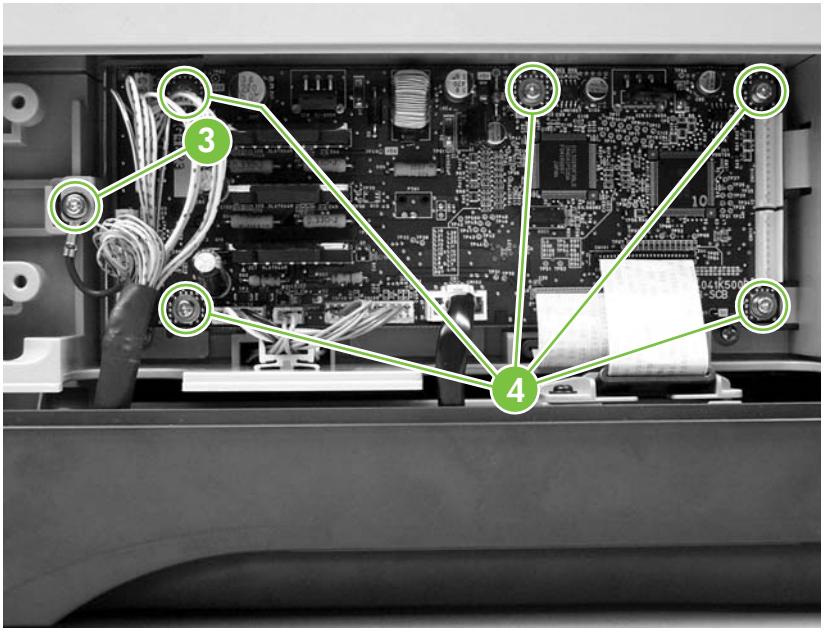
1. Remove the scanner right cover. See Scanner right cover on page 73.
2. Disconnect seven cable connectors (callout 1) and two ribbon cables (callout 2).

Figure 5-76 Removing the scanner controller board (1 of 2)



3. Remove one grounding screw and wire (callout 3) and five screws (callout 4).

Figure 5-77 Removing the scanner controller board (2 of 2)

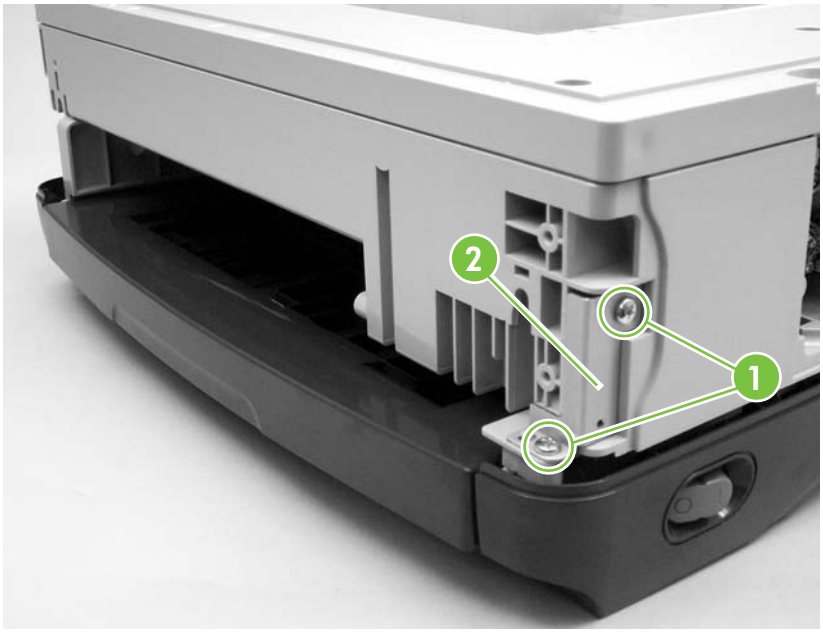


4. Remove the scanner controller board.

Flatbed scanner assembly

1. Remove the following items:
   - ADF assembly. See ADF assembly on page 81.
   - Scanner right cover. See Scanner right cover on page 73.
   - Scanner left cover. See Scanner left cover on page 74.
   - Scanner front cover. See Scanner front cover on page 75.
   - Right hinge cover. See Right hinge cover on page 77.
   - Left hinge cover. See Left hinge cover on page 78.
   - Right hinge guide. See Right hinge guide on page 84.
2. Remove two screws (callout 1) from the right bracket (callout 2) and remove the right bracket.

Figure 5-78 Removing the flatbed scanner assembly (1 of 4)

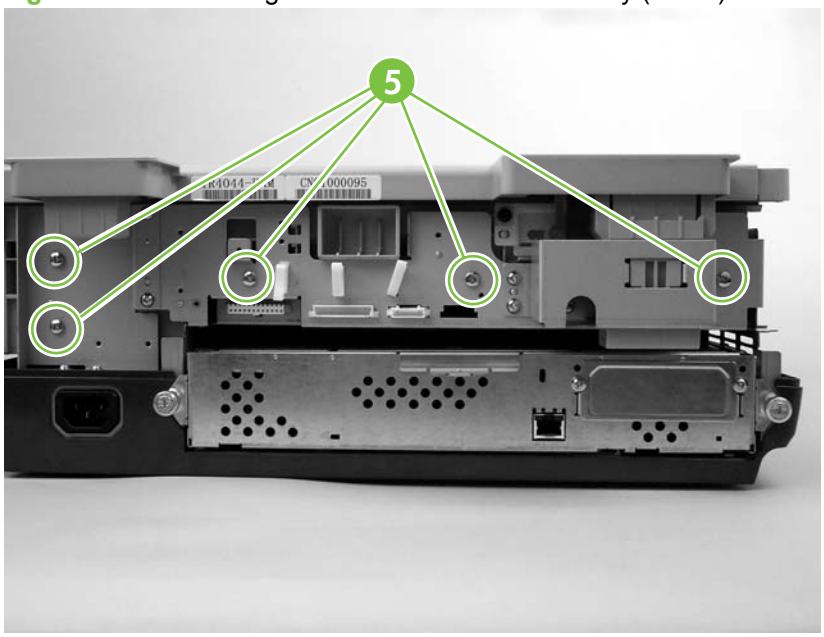


3. Remove one screw (callout 3) and remove the left bracket. Remove one other screw (callout 4).

Figure 5-79 Removing the flatbed scanner assembly (2 of 4)

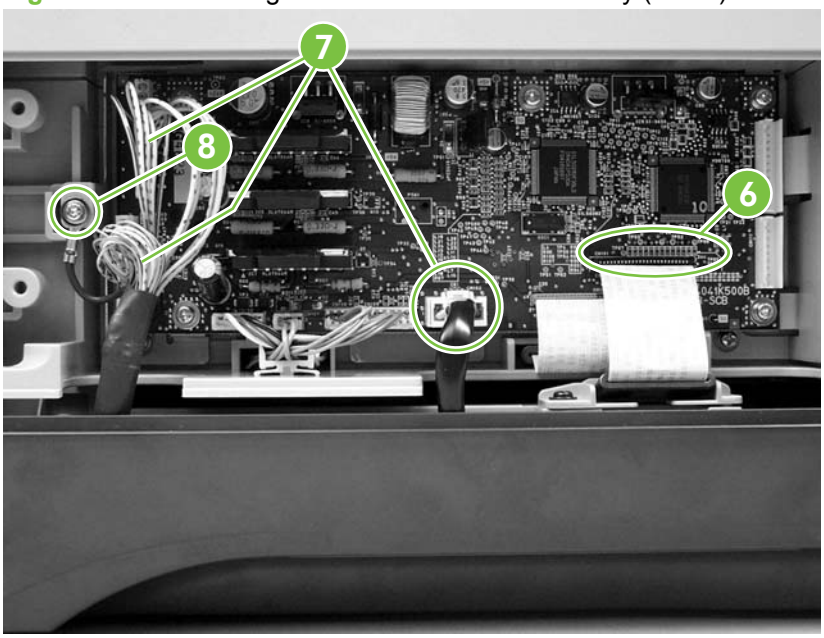
4. Remove five screws (callout 5).

Figure 5-80 Removing the flatbed scanner assembly (3 of 4)



5. Remove one flat ribbon cable (callout 6), disconnect three connectors (callout 7), and remove one grounding screw and wire (callout 8).

Figure 5-81 Removing the flatbed scanner assembly (4 of 4)

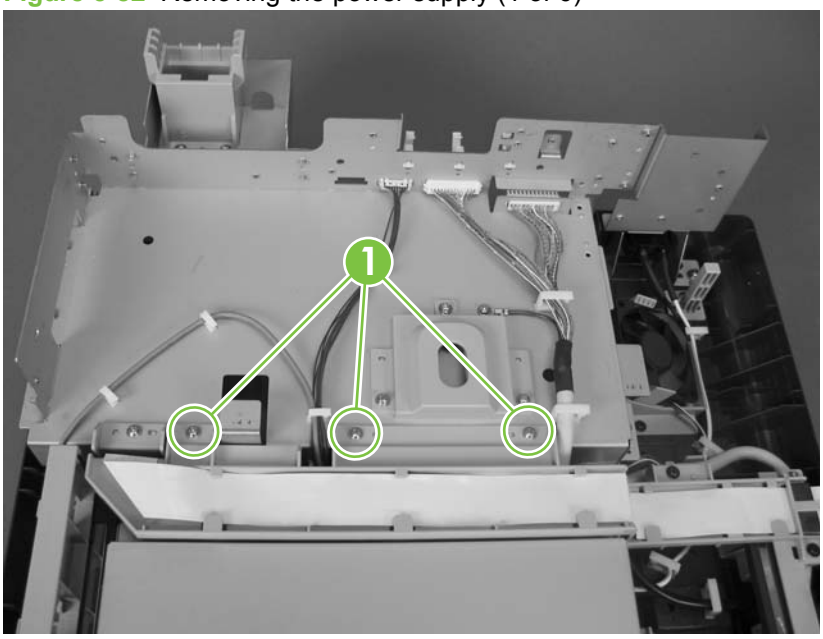


6. Lift the flatbed scanner assembly off of the base.

Power supply

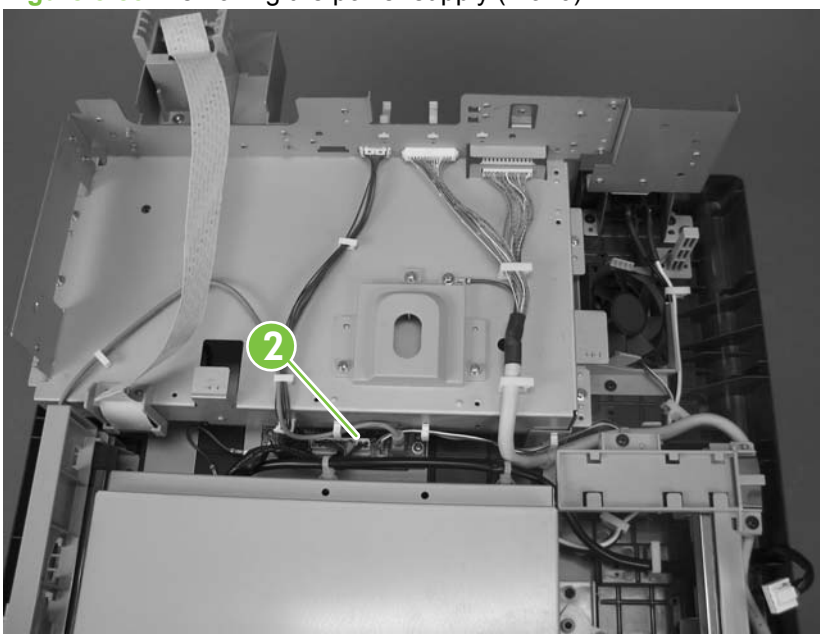
1. Remove the flatbed scanner assembly. See Flatbed scanner assembly on page 96.
2. Remove three screws (callout 1) from the upper ribbon guide, slide the ribbon cable off of the guide, and then lift the guide out of the device.

Figure 5-82 Removing the power supply (1 of 6)



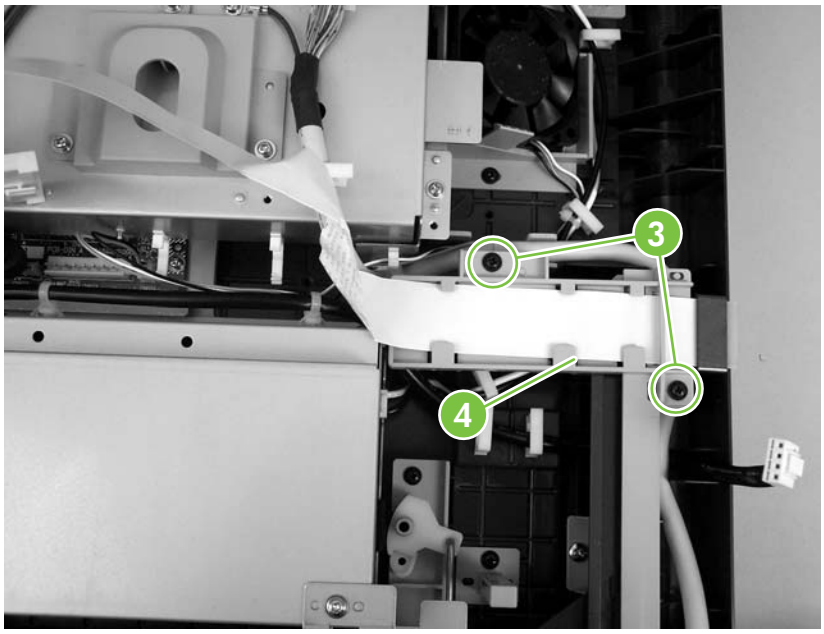
3. Disconnect the middle cable connector (callout 2) from the interconnect board.

Figure 5-83 Removing the power supply (2 of 6)



4. Remove two screws (callout 3) and remove the lower flatbed ribbon cable guide (callout 4).

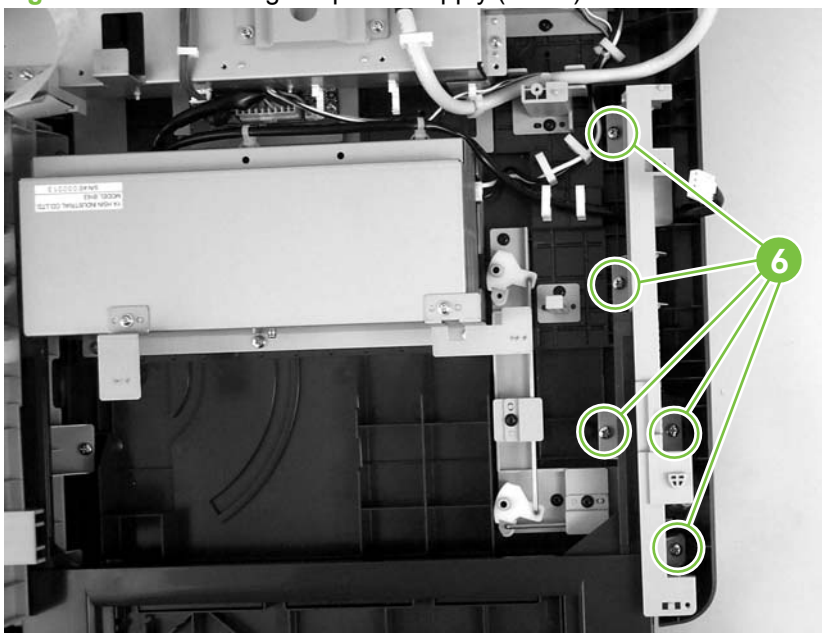
Figure 5-84 Removing the power supply (3 of 6)



NOTE: When reinstalling the ribbon cable, make sure that you feed it through the ferrite.

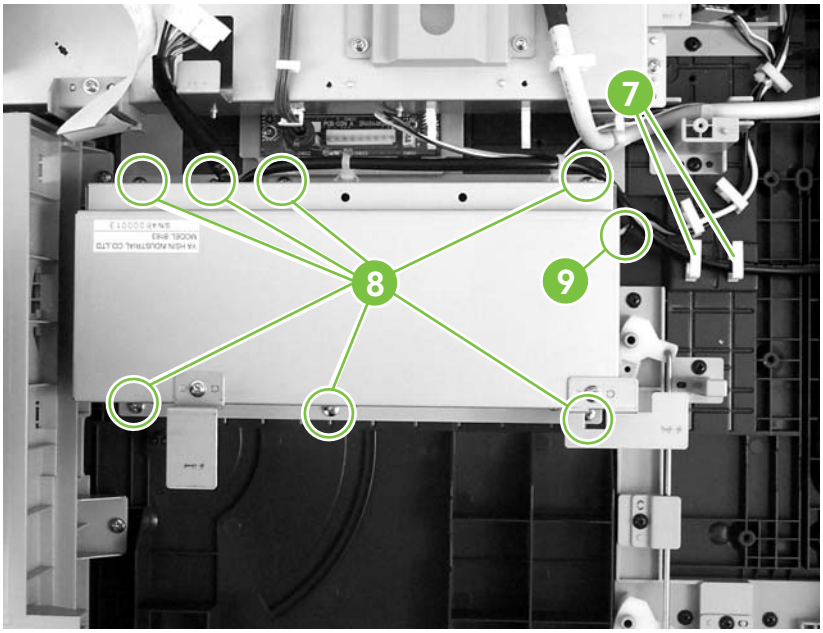
5. Remove five screws (callout 6) and remove the right keyboard tray guide.

Figure 5-85 Removing the power supply (5 of 6)



6. Unclip two wire clips (callout 7), remove seven screws (callout 8), and disconnect one connector (callout 9).

Figure 5-86 Removing the power supply (6 of 6)



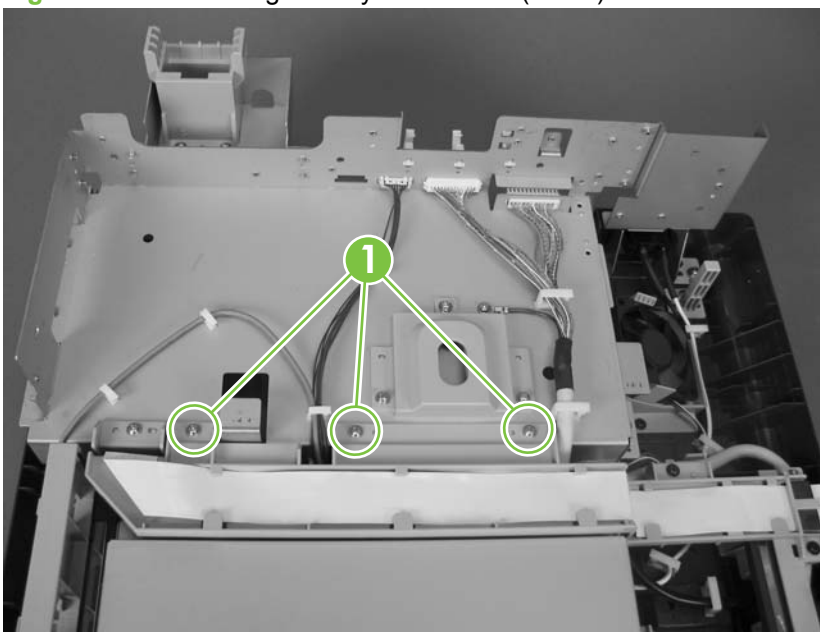
7. Remove the power supply.

NOTE: When reinstalling the power supply, make sure that the power-switch mechanism is seated correctly so that the external power switch can toggle the internal power switch.

Keyboard cable

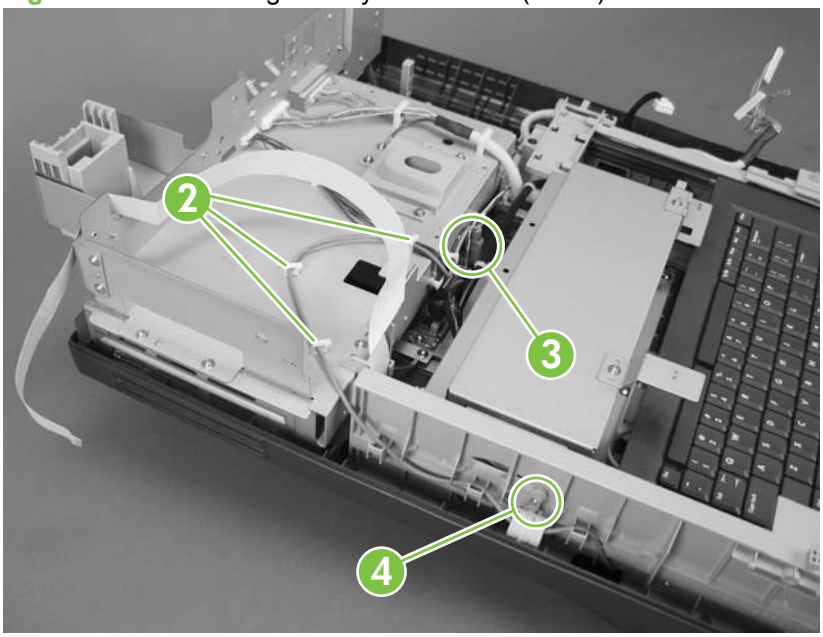
1. Remove the following items:
   - Keyboard. See Keyboard on page 56.
   - Flatbed scanner assembly. See Flatbed scanner assembly on page 96.
2. Remove three screws (callout 1) from the upper ribbon guide. The ribbon cable will slide out when the screws are removed.

Figure 5-87 Removing the keyboard cable (1 of 5)



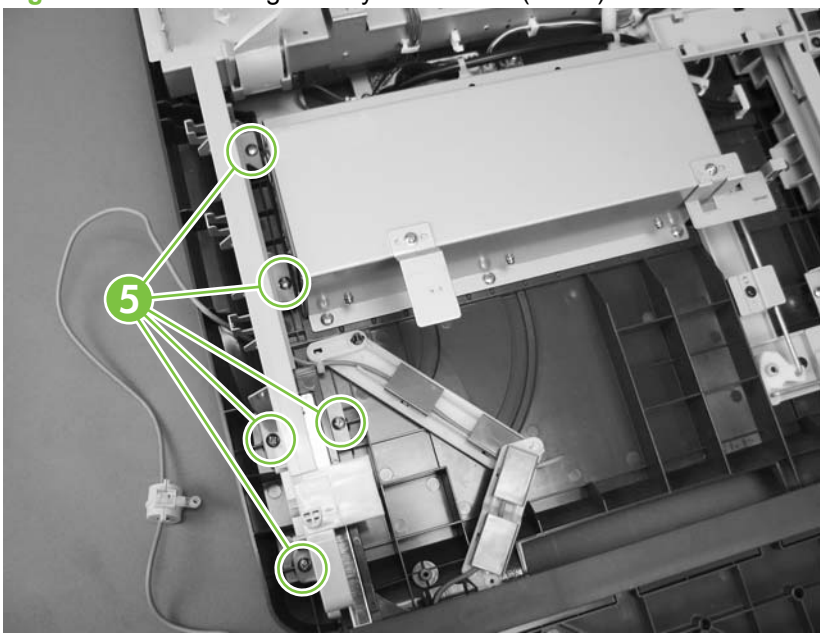
3. Open the cable guides (callout 2), unplug the keyboard cable (callout 3), and then remove one screw (callout 4).

Figure 5-88 Removing the keyboard cable (2 of 5)



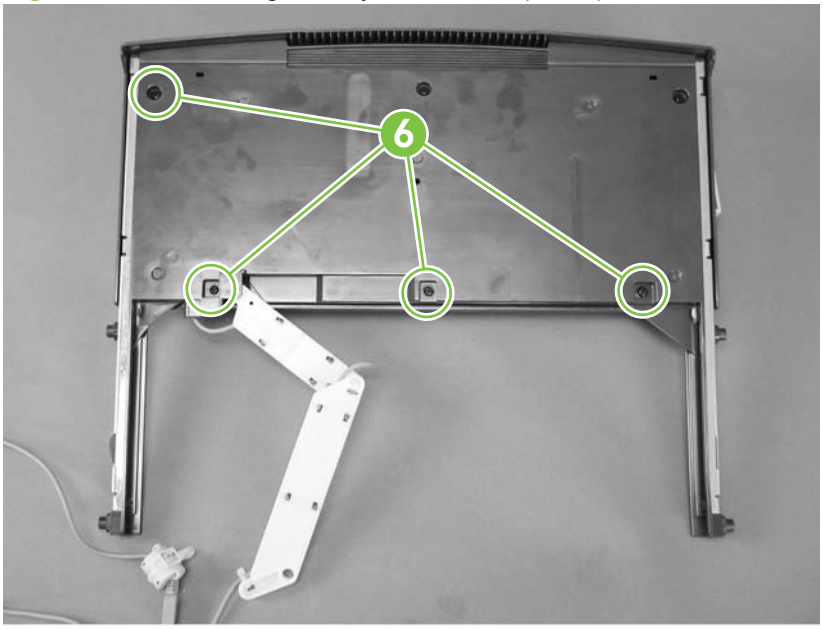
4. Remove five screws (callout 5) from the left keyboard tray guide, and then lift the guide out of the device.

Figure 5-89 Removing the keyboard cable (3 of 5)



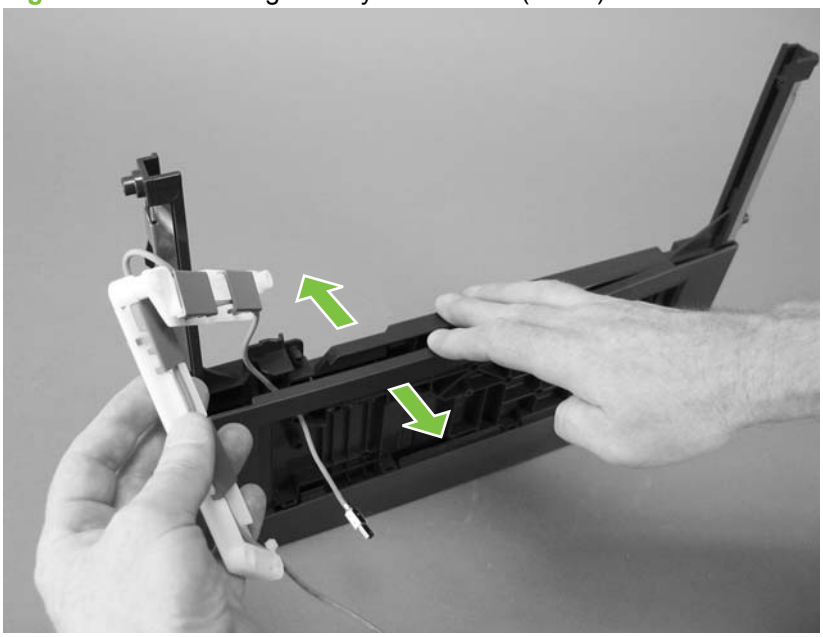
5. Lift the keyboard tray out of the device, turn it over, and then remove four screws (callout 6).

Figure 5-90 Removing the keyboard cable (4 of 5)



6. Spread the upper and lower parts of the keyboard tray to create an opening for the keyboard cable, and then lift the cable out of the keyboard tray.

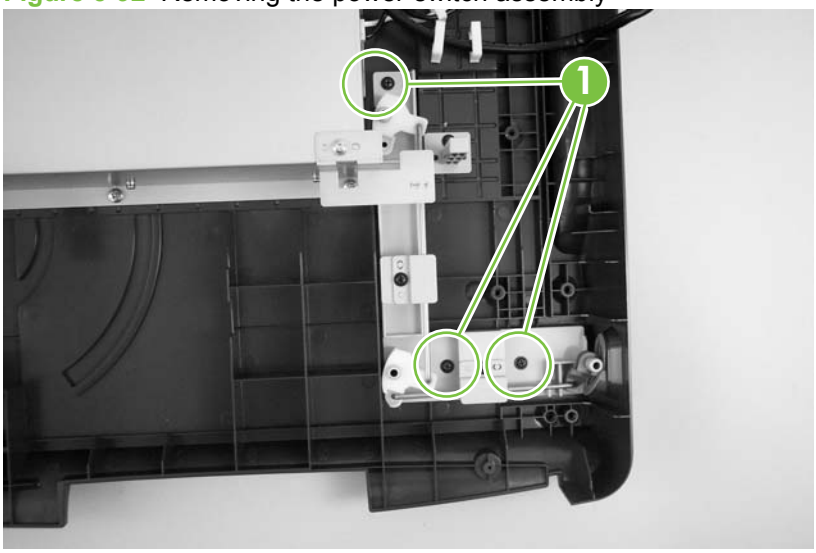
Figure 5-91 Removing the keyboard cable (5 of 5)



Power-switch assembly

1. Remove the following items:
   - Flatbed-unit assembly. See Flatbed scanner assembly on page 96.
   - Lower flatbed ribbon guide. See Power supply on page 99 (Step 4).
   - Right keyboard tray guide. See Power supply on page 99 (Step 7).
2. Remove three screws (callout 1).

Figure 5-92 Removing the power-switch assembly



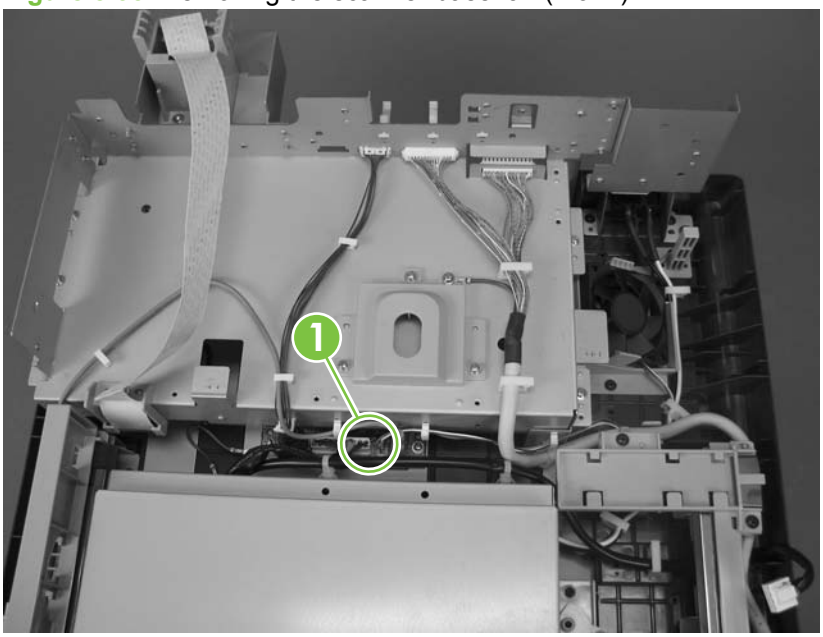
3. Remove the power-switch assembly.

NOTE: When reinstalling the power switch, make sure that the power-switch mechanism is seated correctly and that the keyboard tray is seated into its guide before installing the keyboard tray guide.

Scanner base fan

1. Remove the following items:
   - Flatbed unit. See Flatbed scanner assembly on page 96.
   - Upper flatbed ribbon guide. See Power supply on page 99 (steps 2 and 3).
2. Disconnect the cable (callout 1) from the right side of the interconnect board.

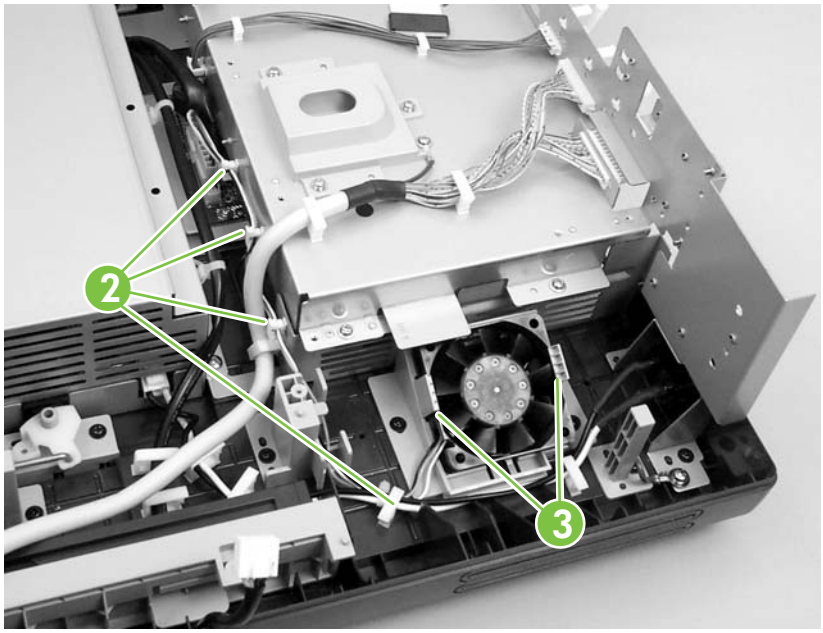
Figure 5-93 Removing the scanner base fan (1 of 2)



3. Open four cable clips (callout 2) and release two tabs (callout 3) by pressing them away from the fan.

NOTE: You might have to cut a zip tie in order to release the wires.

Figure 5-94 Removing the scanner base fan (2 of 2)



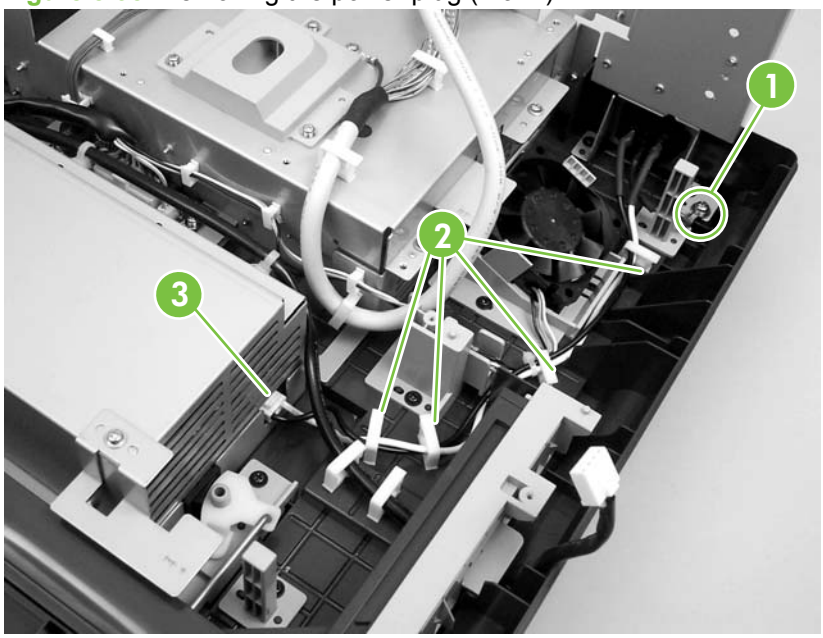
4. Remove the scanner base fan.

Power plug

1. Remove the flatbed unit. See Flatbed scanner assembly on page 96.
2. Remove one grounding screw and wire (callout 1), unclip four wire clips (callout 2), and disconnect one connector (callout 3).

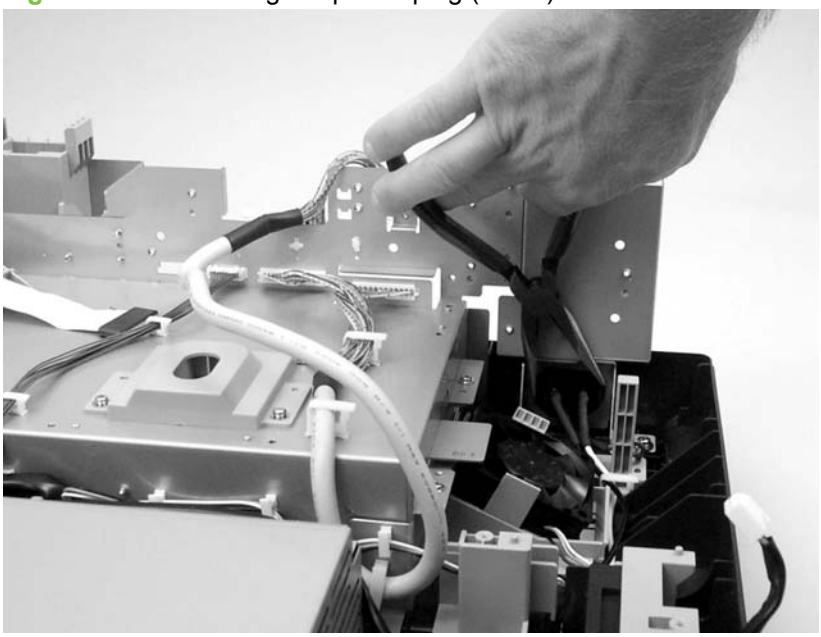
NOTE: You might have to cut a zip tie in order to release the wires.

Figure 5-95 Removing the power plug (1 of 2)



3. Using a pair of pliers, depress the two tabs and remove the power plug through the hole.

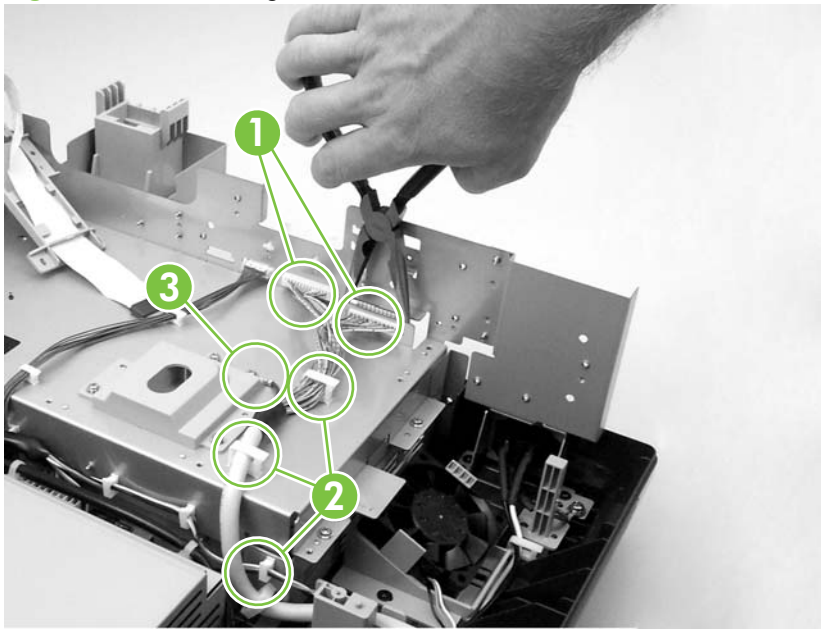
Figure 5-96 Removing the power plug (2 of 2)



SCB cable

1. Remove the flatbed unit. See Flatbed scanner assembly on page 96.
2. Use needle-nose pliers to remove two connectors (callout 1). Unclip three wire clips (callout 2) and remove one grounding screw and wire (callout 3).

Figure 5-97 Removing the SCB cable

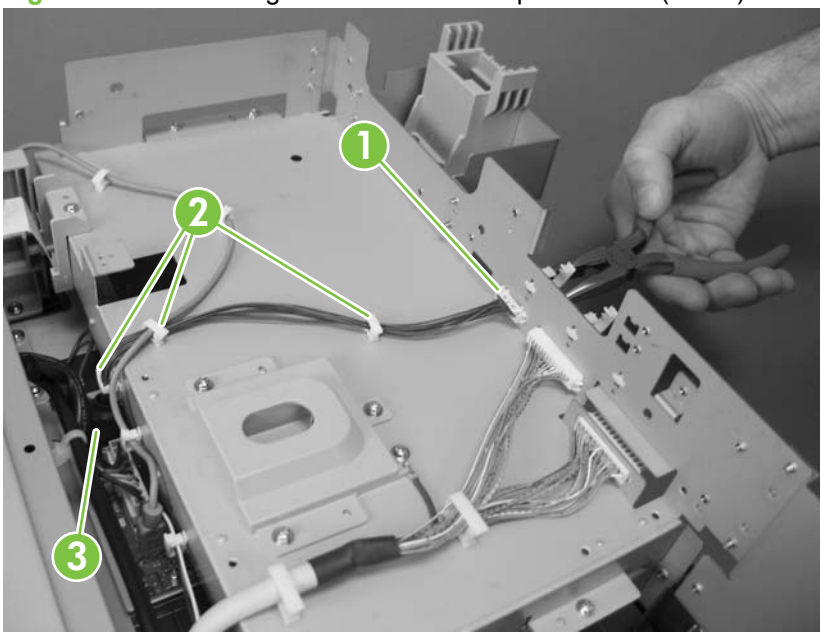


3. Remove the SCB cable.

Internal control-panel cable

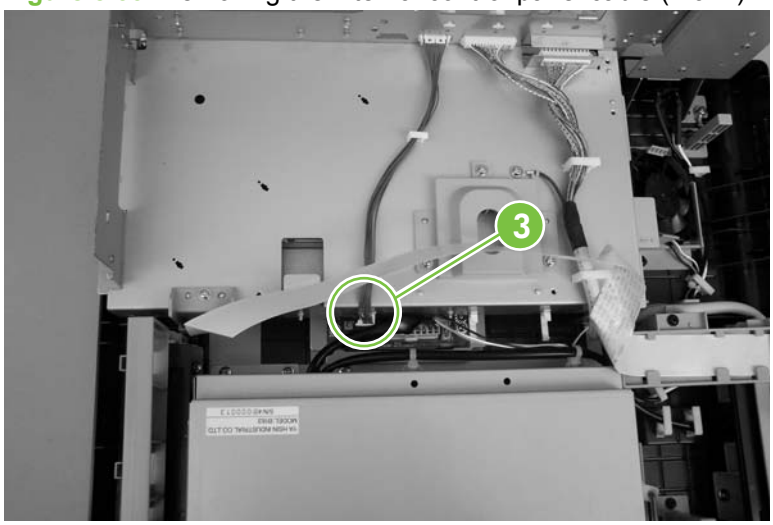
1. Remove the following items:
   - Flatbed unit. See Flatbed scanner assembly on page 96.
   - Upper flatbed ribbon guide. See Power supply on page 99 (steps 2 and 3).
2. Use needle-nose pliers to disconnect one connector (callout 1) and unclip three wire clips (callout 2).

Figure 5-98 Removing the internal control-panel cable (1 of 2)



3. Disconnect the internal control-panel cable from the left side of the interconnect board (callout 3).

Figure 5-99 Removing the internal control-panel cable (2 of 2)



6 Troubleshooting

In order to use the information in this chapter, you should have a basic understanding of the scanning and digital-sending processes. Explanations of each mechanical assembly, the device systems, and the basic theory of operation are contained in chapter 4 of this manual. Do not perform any of these troubleshooting processes unless you understand the function of each device component.

This chapter contains information about the following topics:

- Troubleshooting process
- Control-panel messages
- Operational issues
- LEDs
- Clear jams
- Calibrate the scanner
- Resolve e-mail problems
- Resolve network-connectivity problems
- Service-mode functions
- Service menu
- Troubleshooting tools
- Diagnostic tools
- Upgrade the firmware
- Troubleshooting diagrams

Troubleshooting process

When the digital sender malfunctions or encounters an unexpected situation, information on the control panel alerts you to the situation. This section contains an initial troubleshooting checklist that helps to eliminate many possible causes of the problem. The remainder of the chapter provides steps for correcting the problems that have been identified.

- Use the initial troubleshooting checklist to evaluate the source of the problem and to reduce the number of steps that are required to fix the problem.
- Use the troubleshooting information in this chapter to pinpoint the cause of malfunctions.

Initial troubleshooting checklist

If the digital sender is not responding correctly, complete the steps in the following checklist. If the device does not pass a step, follow the corresponding troubleshooting suggestions. If a step resolves the problem, you can stop without performing the other steps on the checklist.

Troubleshooting checklist

1. Make sure that the digital sender **Ready** LED is on. If no lights are on, see Power-on checks on page 113.
2. Check the network connection. See Resolve network-connectivity problems on page 134.

Power-on checks

The basic digital-sender functions should start up as soon as the digital sender is plugged into an electrical outlet in a wall receptacle and the power switch is pushed to the *on* position. If the digital sender does not start, use the information in this section to isolate and solve the problem.

Power-on troubleshooting overview

Turn on the digital sender. If the control-panel display remains blank, random patterns appear, or asterisks remain on the display, perform power-on checks to locate the cause of the problem.

During normal operation, the main cooling fan begins to spin briefly after the digital sender power is turned on. Place your hand over the holes in the rear cover, above the formatter. If the fan is operating, you will feel a slight vibration and feel air passing into the digital sender. You can also lean close to the digital sender and hear the fan operating. When this fan is operational, the dc side of the power supply is functioning correctly.

NOTE: NOTE: If the formatter is not seated correctly or if it is not functioning correctly, the device will not power up and no power will be available to the fans. This condition sometimes can be mistaken for a power-supply issue when the power supply is functioning correctly.

After the fan is operating, the main motor turns on (unless the top cover is open, a jam condition is sensed, or the paper-path sensors are damaged). You should be able to hear the main motor if it is on.

If the fan and main motor are operating correctly, the next troubleshooting step is to isolate the remaining problems.

If the control panel is blank when you turn on the digital sender, check the following items.

1. Make sure that the digital sender is plugged into an active electrical outlet that delivers the correct voltage.
2. Make sure that the on/off switch is in the *on* position.
3. Make sure that the fan runs briefly, which indicates that the power supply is operational.
4. Make sure that the control-panel display wire-harness is connected. See External control-panel cable on page 63.
5. Remove any HP Jetdirect or other EIO cards, and then try to turn the digital sender on again.
6. Verify that the formatter “heartbeat” LED is blinking. See LEDs on page 126. The heartbeat LED indicates that the formatter is fully functional. If the heartbeat LED is not blinking, reseat the formatter assembly.

If the scanner base fan is not operating, verify that all connectors to the power supply and the scanner base fan are correctly seated. If the fan is still not functional, replace the components one by one until the system is functional.

NOTE: It is important to have the control panel functional as soon as possible in the troubleshooting process so that the control-panel display can be used to help locate digital-sender errors.

Control-panel messages

Control-panel message types

Four types of control-panel messages can indicate the status of or problems with the device.

Message type	Description
Status messages	Status messages reflect the current state of the device. They inform you of normal device operation and require no interaction to clear them. They change as the state of the device changes. Whenever the device is ready, not busy, and has no pending warning messages, the status message **Ready** appears if the device is online.
Warning messages	Warning messages inform you of data and scan errors. These messages typically alternate with the **Ready** or status messages and remain until you touch OK. Some warning messages are clearable. If **Clearable Warnings** is set to **Job** on the device Device Behavior menu, the next job clears these messages.
Error messages	Error messages communicate that some action must be performed, such as clearing a jam. Some error messages are auto-continuable. If **Auto Continue** is set on the menus, the device will continue normal operation after an auto-continuable error message appears for 10 seconds. **NOTE:** Pressing any button during the 10-second auto-continuable error message overrides the auto-continue feature, and the button function takes precedence. For example, pressing the Stop button pauses scanning and offers the option to cancel the job.
Critical-error messages	Critical error messages inform you of a device failure. Some of these messages can be cleared by turning the device off and then on. These messages are not affected by the **Auto Continue** setting. If a critical error persists, service is required.

Resolve control-panel messages

Table 6-1 Control-panel messages

Control panel message	Description	Recommended action
11.XX Internal clock error - To Continue Touch OK	The device real-time clock has experienced an error.	Whenever the device is turned off and then turned on again, set the time and date at the control panel. If the error persists, you might need to replace the formatter.
30.1.10 Scanner Failure	The ADF fan is not operating. The ADF fan operates only during a scan process.	1. Remove the ADF rear cover and watch the fan during a scan process. 2. Verify that the fan connection on the ADF intermediate PCA is firmly seated. 3. If the fan does not rotate, replace the ADF.

Table 6-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
30.1.6 Scanner Failure	This is a scanner-fan error. This fan is located in the base of the scanner assembly. It operates whenever the scanner lamp is illuminated or whenever the scanner flatbed motor is rotating. This fan also operates during the initialization sequence.	1. During the initialization sequence, try to listen to this fan to find out if it is operating. 2. Verify that connector CN108 on the scanner-controller PCA is firmly seated. Also make sure that the connection for the fan in the base of the scanner assembly is firmly seated. 3. If all the connectors are secure but the fan is not operating, replace the fan.
30.1.8 Scanner Failure	This is a scanner-calibration error. The scanner might be locked, or a cable might not be connected correctly. During the initialization sequence, the scanner optical assembly moves from its home position to the calibration strip. If this movement does not occur, this error appears.	1. Raise the ADF, and make sure that the scanner lock is in the unlocked position. 2. Turn on the device and watch to see if the optical assembly moves. If it does not move, remove the scanner glass to see if anything is hindering the optical assembly from moving. 3. Make sure that the optical-assembly drive belt is installed correctly. 4. Verify that the connector CN106 on the scanner-controller PCA is firmly seated. 5. Verify that the connector CN109 on the scanner-controller PCA is firmly seated. Also verify that the connector for the scanner-home-position sensor is firmly seated.
30.1.YY SCANNER FAILURE	An error has occurred in the scanner. Use the following list to identify specific errors: 30.1.1 = The scanner cover is open. 30.1.2 = A jam has occurred in the ADF. 30.1.3 = The ADF could not pick up the paper. 30.1.6 = An error has occurred at the scanner fan. (See the separate entry for this error.) 30.1.7 = A communication error has occurred in the scanner. 30.1.8 = A scanner-calibration error has occurred. (See the separate entry for this error.) 30.1.10 = An error has occurred at the ADF fan. (See the separate entry for this error.) 30.1.14 = An EEPROM error has occurred on the SCB. 30.1.15 = Scanner initialization failed. 30.1.18 = An error occurred on the scanner PCA.	1. Turn the device off and then on to try to clear the message. 2. If the message indicates that a jam has occurred, clear the jam. 3. Make sure that the ribbon cable between the scanner control board and the formatter is not damaged and is seated correctly. 4. Upgrade the firmware. 5. If you are unable to resolve the problem, replace the scanner assembly.

Table 6-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
	30.1.19 = An error occurred at the scanner lamp. 30.1.22 = A fatal hardware error has occurred in the scanner. 30.1.23 = A scanner-calibration error has occurred. 30.1.24 = The ADF jam-access door is open. 30.1.25 = A general error has occurred in the scanner or ADF. This error is most likely a memory corruption. 30.1.29 = The ADF output bin is full. 30.1.30 = A DCFIFO overflow has occurred on the CPB. 30.1.34 = A cable error or loss of communication with the formatter has occurred. 30.1.36 = The scanning-firmware upgrade failed. The device automatically tries to upgrade the firmware again the next time the device is turned on.	
49.XXXXX ERROR - To Continue Turn Off Then On	A critical firmware error has occurred. This type of error can be caused by invalid print commands, corrupt data, or invalid operations. In some instances, electrical noise in the cable can corrupt data during transmission to the device. Other causes include poor-quality parallel cables, poor connections, or specific software programs. Sometimes, the formatter itself is at fault, which is usually indicated by a **79.XXXX ERROR - To Continue Turn Off Then On** message.	1. Turn the device off, and then turn the device on. 2. Upgrade the firmware. See Upgrade the firmware on page 147. 3. Try printing a job from a different software program. If the job prints, go back to the first program and try printing a different file. If the message appears only with a certain software program or print job, contact the software vendor for assistance. 4. If the message persists when using different software programs and attempting specific print jobs, disconnect all of the cables that connect the device to the network or a computer. 5. Turn the device off. 6. Remove all DIMMs and flash-memory cards. 7. Remove all of the EIO devices. 8. Turn the device on. 9. If the error message disappears, reinstall each DIMM, flash-memory card, and EIO device individually, making sure to turn the device power off

Table 6-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
		and then on again as you install each device. 10. Replace the component that caused the error message.
51.XY ERROR To continue turn off then on	A temporary error has occurred.	1. Turn the device off, and then turn the device on. 2. If the message persists, replace the formatter.
52.XY ERROR To continue turn off then on	A temporary error has occurred.	1. Turn the device off, and then turn the device on. 2. If the message persists, replace the formatter.
54.XX ERROR To continue turn off then on	A temporary error has occurred.	1. Turn the device off, and then turn the device on. 2. If the message persists, replace the formatter.
55.XX DC CONTROLLER ERROR To continue turn off then on	The device is not communicating with the formatter.	1. Turn the device off, and then turn the device on. 2. Reseat the formatter. 3. Check to find out if an RFU is available. If it is, perform the RFU. 4. If the error persists, replace the formatter. See Formatter cage on page 49.
56.XX ERROR To continue turn off then on	A temporary error has occurred.	1. Turn the device off, and then turn the device on. 2. Reseat the formatter. 3. Check to find out if an RFU is available. If it is, perform the RFU. 4. If the error persists, replace the formatter. See Formatter cage on page 49.
57.XX ERROR To continue turn off then on	A temporary error has occurred.	1. Turn the device off, and then turn the device on. 2. If the error persists, check the fan connectors and then make sure that the fan blades can move freely. 3. Listen for the fans to operate while the device is initializing. If the fan does not operate during the initialization sequence, replace it.
59.XY ERROR To continue turn off then on	A temporary error has occurred.	1. Turn the device off, and then turn the device on. 2. If the message persists, replace the formatter.

Table 6-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
79.XXXX ERROR - To Continue Turn Off Then On	A critical hardware error occurred.	1. Turn the device off, and then turn the device on. 2. If the problem persists, reseat the DIMM on the formatter. 3. Remove and reinstall the formatter. 4. Upgrade the firmware.
8X.YYYY EMBEDDED JETDIRECT ERROR To continue turn off then on	The embedded HP Jetdirect print server has encountered a critical error, as specified by YYYY.	1. Turn the device off, and then turn the device on. 2. Turn the device off, reinstall the EIO accessory, and then turn the device on. 3. Perform a RFU. 4. Replace the EIO formatter. 5. Remove the EIO accessory if one is installed.
99.XX.YY	(Errors 99.00.01 to 99.00.25) This error occurs during a Remote Firmware Upgrade (RFU). The upgrade might have failed because of a failing component or because the existing firmware is the same as the firmware in the RFU.	1. Turn the device off, and then turn the device on. 2. Check to find out if an RFU is available. If it is, perform the RFU 3. If the RFU fails, check the description in the engine event log. The event log identifies the type of 99 error. If it is failing because the firmware is the latest available, an upgrade is not necessary and the error can be ignored. 4. Make sure that the formatter and output device connections are secure.
[FS] Device failure	The EIO hard disk had a critical failure and can no longer be used.	1. Turn off the device. 2. Remove and reinstall EIO hard disk. 3. Turn the device on again. 4. If the error persists, replace the EIO hard disk.
[FS] File operation failed	The requested operation could not be performed. You might have attempted an illegal operation, such as trying to download a file to a nonexistent directory.	1. Check the file name and try again. 2. Check the driver settings to see if any job retention features are selected.
[FS] File system if full	A PJL file system write command was received but could not be executed because one of the following devices was full: • ROM DISK • RAM DISK • CARD SLOT	Resend the command.

Table 6-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
	• INTERNAL DISK • EIO	
[FS] Is write protected	The disk device is protected so no new files can be written to it.	Fonts and forms cannot be stored on the disk when the disk is write-protected. Use the Windows-based HP Web Jetadmin or the Macintosh-based HP LaserJet Utility to remove the write protections from disks.
Authentication required	Authentication has been enabled for this feature or destination. A username and password are required.	Type the user name and password, or contact the network administrator.
Authentication required to use this feature	A user name and password are required.	Type the user name and password, or contact the network administrator.
Card slot <X> not functional	The EIO slot is not functioning correctly.	1. Reseat the EIO card. 2. Reseat the formatter. 3. If the error persists, use a different EIO card.
Document feeder bin full	The document feeder output bin holds 50 sheets of paper. The device stops when the bin is full.	Usually, emptying the ADF output bin clears this message. If the message persists, check the following items: 1. Verify that the ADF output-bin-full sensor flag can move freely. 2. Verify that the connector at the sensor flag is seated correctly. You can use the scanner tests (**Troubleshooting** > **Scanner Tests**) to test this sensor. Lift up on the sensor flag to simulate the output bin being full. Observe whether the status changes on the control-panel display. If the status does not change, make sure that the connectors are firmly seated. Clean or replace the sensor if necessary.
Document feeder cover open	The document feeder cover is open.	The ADF cover-open sensor is located directly above the ADF feed motor. When the ADF jam-access cover is closed, a plastic protrusion that is on the bottom of this cover blocks the sensor, and the scanner-controller PCA detects that the cover is closed. If you have recently disassembled the ADF, make sure that all of the covers have been installed correctly and make sure that the wiring to this sensor is firmly seated. Also verify that CN105 on the scanner-controller PCA is firmly seated. Open the **Troubleshooting** menu, and touch **Scanner Tests** and then **Sensors**. Open and close the ADF jam-access cover and observe whether the status changes on the control-panel display. If the status does not change, make sure that the connectors

Table 6-1 Control-panel messages (continued)

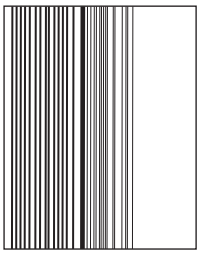
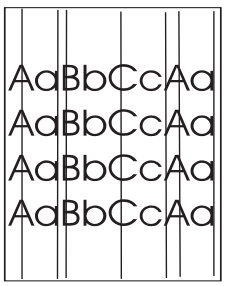
Control panel message	Description	Recommended action
		are firmly seated. Clean or replace the sensor if necessary.
Document feeder empty	The user pressed **Start**, but there is nothing in document feeder or on the scanner glass (if the document feeder is closed).	Place originals in the document feeder or scanner glass, and then press **Start**.
Document feeder pick error	The document feeder experienced an error while picking media.	Clear any jam. Make sure that you have not overloaded the document feeder. Do not load more than 50 sheets of 20 lb paper in the document feeder. If the message persists, make sure that the ADF mylar sheet, the ADF pickup-roller assembly, and the ADF separation pad are installed correctly. If any of these components is dirty or worn, replace the component. The ADF-input motor might be defective. Observe the motor to see if it is rotating or attempting to pull paper through the paper path. You can use the scanner tests (**Troubleshooting** > **Scanner Tests**) to test this motor. Run the ADF input motor test and the ADF input motor reverse test. If the motor does not rotate, verify that the connector CN103 is seated correctly on the scanner-controller PCA and that the connector on the motor is seated correctly. If the motor is defective, replace the ADF.
EIO <X> disk not functional	The EIO device in the specified location (X) has failed.	1. Turn the device off, reseat the EIO device, and then turn the device on. 2. Replace the EIO device.
HP Digital Sending: Delivery Error	A digital send job has failed and cannot be delivered.	Try to send the job again.
Initializing scanner	The scanner is initializing.	No action is necessary
Jam in Document Feeder	Media is jammed in the document feeder.	Clear the jam. If the message persists, make sure that the ADF mylar sheet, the ADF pickup-roller assembly, and the ADF separation pad are installed correctly. If any of these components is dirty or worn, replace the component. The ADF-read motor might be defective. Observe the motor to see if it is rotating or attempting to pull paper through the paper path. You can use the scanner tests (**Troubleshooting** > **Scanner Tests**) to test this motor. Run the ADF read motor test and the ADF read motor reverse test. If the motor does not rotate, verify that connector CN103 is seated correctly on the scanner-controller PCA and that the connector on the motor is seated correctly. If the motor is defective, replace the ADF.

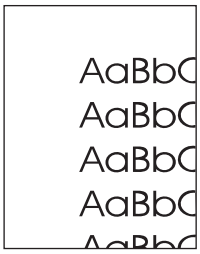
Table 6-1 Control-panel messages (continued)

Control panel message	Description	Recommended action
		The ADF paper-present sensor might be defective. Make sure that the sensor flag can move freely. You can use the scanner tests (**Troubleshooting** > **Scanner Tests**) to test this sensor. Manually move the flag and observe whether the status changes on the control-panel display. If the status does not change, make sure that the wiring for the sensor is firmly seated. Clean or replace the sensor if necessary.
SANITIZING DISK <X>% COMPLETE Do not power off	The hard disk is being cleaned.	Contact the network administrator.
UNABLE TO SEND		To temporarily hide this message in order to fax or send to e-mail, touch **IGNORE**.
Windows Login Required to use this feature	The digital send feature that you have selected requires a Windows login.	Provide your Windows network credentials to use the digital-sending feature.

Operational issues

Use the troubleshooting instructions in the following table to deal with some basic digital sender operational issues.

Problem	Action to take
The digital sender is not working.	• Make sure that the power cord is securely connected to the device and that it is plugged into the electrical outlet. • Make sure that the digital sender is turned on. • Verify that the network cable is securely connected to the device. • Clear any error messages on the control-panel display. • If the digital sender has successfully powered up and completed all of its internal diagnostics, the formatter LED will flash on and off approximately once every second. Verify that the formatter LED and Jetdirect LED appear to be functioning normally. See LEDs on page 126.
The digital sender does not accept your password.	• Verify that you are using the correct password. • Passwords are case-sensitive. Make sure that you type your password with the correct combination of uppercase and lowercase letters. • Use the embedded Web server to verify that the settings are correct for your network or verify that the settings are correct on the **Authentication** tab of the HP MFP DSS Configuration Utility.
Scanned pages are blank or have repeated patterns when using the ADF. 	Make sure that a page is not already on the glass.
Vertical streaks appear on the scanned image. 	Clean the ADF and glass. See Clean the device on page 20. If that does not solve the problem, replace the mylar sheet. See ADF mylar shield on page 46.

Problem	Action to take
Placement of the scanned image appears to be wrong.  	• Make sure that the document that you are trying to send is placed correctly in the ADF or on the glass. • The scanner might need to be recalibrated. See Calibrate the scanner on page 129 for instructions.
The image quality is poor.	• Make sure that the document that you are trying to send is placed correctly in the ADF or on the glass. • Make sure that the glass is clean. If the glass is dirty, clean it with a dry, soft cloth. • If you are scanning from the ADF, try scanning from the glass. If the image that was scanned from the glass is better, clean the ADF. See Clean the device on page 20 for complete cleaning procedures. • If possible, try changing some of the scan settings, such as resolution or file type, in order to improve the image quality.
The ADF feeds multiple sheets, skews pages, or jams frequently.	• Adjust the guides so that they are snug against the stack but do not bend the stack. • The maximum number of pages the ADF can hold is 50 or fewer, depending on the type of media that is being loaded. • The maximum number of pages the output tray can hold is 50 or fewer. Make sure that more pages are not stacking up in the output tray. • The type of media that is being loaded might not meet the required specifications. See Paper handling on page 11 for media specifications. • Clean the separation pad and the rollers. See Clean the device on page 20. • If the mylar sheet has recently been replaced, verify that it was correctly installed. See the documentation that came with the mylar sheets or see ADF mylar shield on page 46. • If the roller assembly or separation pad has recently been replaced, verify that it is correctly installed. See the documentation that came with the replacement parts or see Separation pad on page 39 and Pickup roller assembly on page 43. • If users have been feeding unsupported items through the ADF (for example, carbon copy forms), the rollers might have accumulated a residue or been damaged. You might need to clean the rollers (see Clean the device on page 20) or replace the rollers (see Pickup roller assembly on page 43).

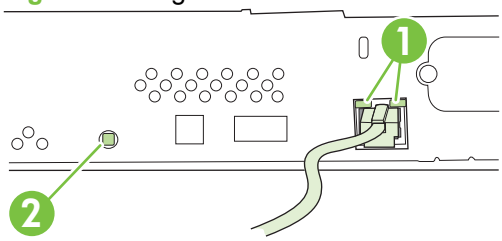
Problem	Action to take
The "Find Servers" process in the HP MFP DSS Configuration Utility was not able to find an SMTP server.	• Verify that an active SMTP server is on the network. • Click **Add…** on the **E-Mail** tab, and then type in the host name or IP address of the SMTP server. After typing in the address, click the **Test** button to verify that the software can contact the server. • If testing the server is unsuccessful, see Resolve e-mail problems on page 132.
An e-mail transmission did not arrive at the destination address.	• If you typed the e-mail address at the control panel, resend the e-mail message, making sure that you type the address correctly and that it is in the correct format (has no spaces, contains the required @ sign, and contains the required period). • Resend the e-mail. Make sure that you type the name in the correct format in the **From:** field so that the message is not rejected and so that you receive a message back if the e-mail transmission fails. • Check the activity log to see if it reflects a problem.
A fax transmission did not arrive at the destination fax machine.	• If you typed the fax number at the control panel, resend the document, making sure that you type the fax number correctly. • The receiving fax machine might be turned off or experiencing an error condition (such as out of paper or toner). Contact the recipient. • The system might be busy sending other digital send jobs. The system might also have reached its maximum limit of pending jobs. Wait and then try again. • For information about the transmission, check any fax notifications that might have been returned (for example, e-mail notifications in your e-mail inbox, if these reports are available with your fax service). • Resend the fax. If the problem persists, check the log for the fax transport that is being used. Logs often contain information about why a fax transmission was unsuccessful.
A document sent to a folder did not arrive at the destination folder.	• Resend the document. • See if the file name was modified to resolve a duplicate-file-name error. • Check the activity log for error messages.
The bottom of a page that you sent is cut off.	If the document was sent from the glass, the document page might be too long. The maximum length for documents scanned from the glass is A4, or 210 x 297 mm (8.27 x 11.69 inches).
The control panel is using the wrong language.	Use the control-panel menu to set the correct language. 1. Touch Administration and then touch Language. 2. Select a language from the list of languages. 3. Touch OK.

Problem	Action to take
	NOTE: When you select a new language, the keyboard layout might also change.
Characters on the control-panel display are misaligned.	Perform the control-panel calibration routine.

LEDs

Three LEDs on the formatter indicate that the digital sender is functioning correctly.

Figure 6-1 Digital-sender LEDs



1. HP Jetdirect LEDs (“link” LEDs)
2. Formatter “heartbeat” LED

HP Jetdirect LEDs

The embedded HP Jetdirect server has two LEDs, one for each possible link speed. When an LED is lit, the server is functioning correctly. A link failure is indicated when both LEDs are off.

For link failures, check all of the network cable connections. In addition, you can try to manually configure the link settings on the embedded server by using the digital sender control-panel menus.

1. Touch Administration, touch Initial Setup, touch Networking and I/O, and then touch Embedded Jetdirect.
2. Touch Link Speed and then select the appropriate link speed.

NOTE: See Resolve network-connectivity problems on page 134 for more information about troubleshooting HP Jetdirect and other network issues.

Formatter LED

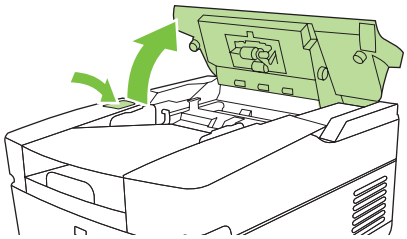
The formatter LED indicates that the formatter is functioning correctly. While the digital sender is initializing after you turn it on, the LED blinks rapidly, and then turns off. When the digital sender has finished the initialization sequence, the heartbeat LED pulses on and off.

If the formatter LED is off, the formatter might have a problem. Remove the formatter cage and reseat the memory DIMM, if one is installed. Then make sure that the formatter cage is seated correctly. If the problem persists, replace the formatter. See Formatter assemblies on page 49.

Clear jams

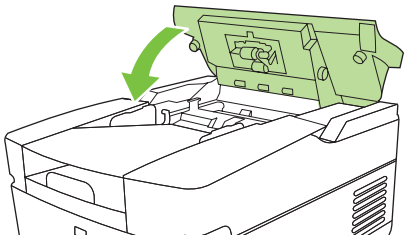
If a jam message appears on the control-panel display, follow these instructions to clear jams in the digital-sender ADF.

1. Press the release button to open the ADF cover.



2. Remove any jammed media from this area. Make sure that you have removed all of the pieces of torn media.

3. Close the ADF cover.



When clearing jams, be very careful not to tear jammed media. If a small piece of media remains in the digital sender, it could cause additional jams. If jams are a recurring problem, see Solve repeated jams on page 128.

Solve repeated jams

Try the following methods to solve repeated jams in the digital sender:

- Adjust the guides so that they are snug against the stack but do not bend the stack.
- The maximum number of pages the ADF can hold is 50 or fewer, depending on the type of media that is being loaded.
- The maximum number of pages the output tray can hold is 50 or fewer. Make sure that more pages are not stacking up in the output tray.
- The type of media that is being loaded might not meet the required specifications.
- Clean the separation pad and the rollers. See Clean the device on page 20.
- If the mylar sheet has recently been replaced, verify that it was correctly installed. See the documentation that came with the mylar sheets or see ADF mylar shield on page 46.
- If the roller assembly or separation pad has recently been replaced, verify that it is correctly installed. See the documentation that came with the replacement parts or see Separation pad on page 39 and Pickup roller assembly on page 43.
- If users have been feeding unsupported items through the ADF (for example, carbon-copy forms), the rollers might have accumulated a residue or been damaged. You might need to clean the rollers (see Clean the device on page 20) or replace the rollers (see Pickup roller assembly on page 43).

Calibrate the scanner

NOTE: Calibrate the scanner when the ADF is removed or replaced.

Calibrate the scanner to compensate for offsets in the scanner imaging system (carriage head) for ADF and flatbed scans. Because of mechanical tolerances, the scanner's carriage head might not read the position of the image accurately. During the calibration procedure, scanner offset values are calculated and stored. The offset values are then used when producing scans so that the correct portion of the document is captured.

Scanner calibration should be carried out only if you notice offset problems with the scanned images, or if you remove or replace the ADF. The scanner is calibrated before it leaves the factory. It needs to be calibrated again only rarely.

1. From the Home screen, touch Administration.
2. Touch Troubleshooting.
3. Place the calibration sheet that came with the digital sender on the flatbed scanner.
4. Touch Calibrate Scanner and then follow the instructions in the onscreen dialog box.

   The device starts the calibration process, and **Calibrating** appears on the touchscreen status line until the process is complete.

To print the calibration target

1. If you do not have the calibration sheet that came with the digital sender, touch Download Drivers and Software and select any Windows operating system (Calibration Page is located in the Utility menu). Also, the HP Digital Sender 9200c and HP Digital Sender 9250c calibration pages are the same and can be used for either scanner. The file name is CALIBRATION.PDF or CALIBRATION.DOC. See www.hp.com/go/9200c_scanner_cal for more information.
2. Print the target on any HP LaserJet printer or another available, laser-quality printer.

   a. Verify that the page size in the software program is set to legal, and do not make any adjustments to the image size.

   NOTE: Ignore any printer errors that might appear about using incorrect paper size. By selecting legal as the page size and printing on letter or A4 paper, the file prints to the edge of the paper.

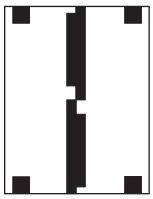
   b. Place letter or A4 paper in tray 1 (or the multipurpose tray) and adjust the side guides.

   c. Print the first pass of the calibration target. (First copy of the file.)

   d. Return the first pass of the calibration target to tray 1 so that the arrows are facing into the printer.

e. Print the second pass (second copy of the file). The final calibration target must look like the following figure.

Figure 6-2 Scanner calibration target



△ **CAUTION:** If the calibration target does not look like the figure shown here, the calibration process will fail and the quality of the digital-sender scans will be degraded. Where shown, the black areas must extend completely to the edges of the page. If they do not, use a black marker to extend the black areas to the edges of the page. If you have problems printing the calibration target, try using a different printer.

To calibrate the scanner

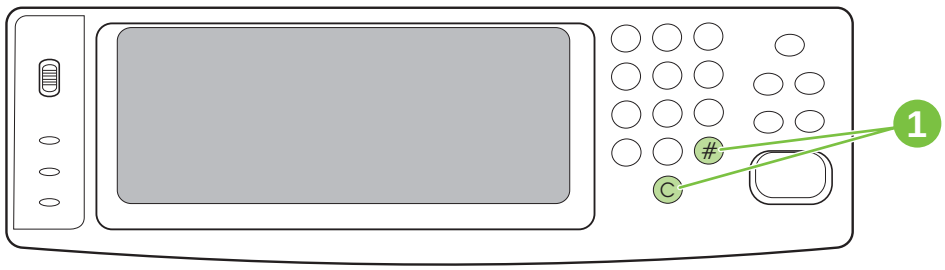
Use the following procedure to calibrate the scanner:

1. Take the calibration target to the digital sender.
2. Place it into the scanner ADF face-up and adjust the side guides.
3. Press the Menu button, touch **DIAGNOSTICS** on the control-panel screen, and then touch **CALIBRATE SCANNER**.
4. After the calibration target has passed through the ADF once, reposition it in the ADF face down.
5. After completing the second pass, position the target on the scanner glass and initiate the final pass.

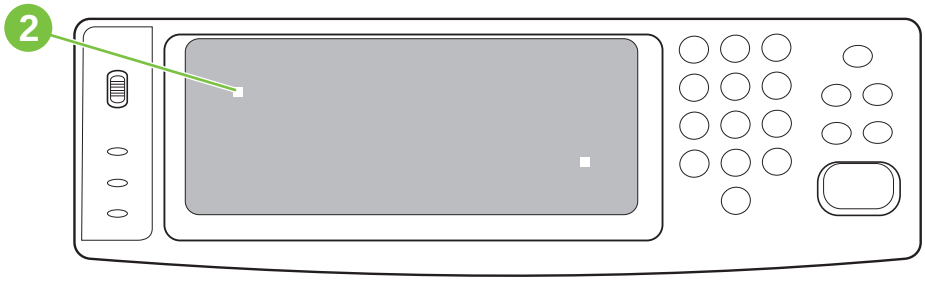
Calibrating the control panel

Use the following procedure to calibrate the control panel

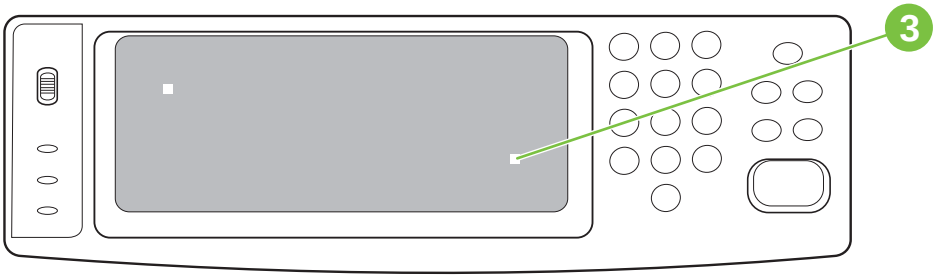
1. Hold down the number (#) key and the C key while turning on the power.



2. Use non-scratching stylus to precisely touch the upper-left calibration point.



3. Use non-scratching stylus to precisely touch the lower-left calibration point.



4. The calibration is complete, and a normal boot with the memory count should resume in a few seconds.

Resolve e-mail problems

During the configuration of the HP DSS program, you must locate the SMTP server and LDAP server on your network and test them to make sure that they are functional. On most standard networks, using the **Find Servers** and **Test** buttons in the HP MFP DSS Configuration Utility will successfully find and test the servers. However, in some cases, the discovery process might fail to find the SMTP or LDAP server. If this is the case, use a computer and the instructions in the following sections to find and test the server.

Finding the LDAP server address

The LDAP Find Servers function searches the network by querying DNS servers and devices that have been configured for LDAP. Servers that can provide LDAP functionality include e-mail servers and directory servers such as the following:

- Microsoft Exchange 5.5 and Exchange 2000 servers
- Microsoft Active Directory servers
- Novell Directory Services servers

If you have one of these types of servers on your network and know the address, use the computer keyboard and try typing it into the **LDAP Server** text box on the **Authentication** tab. Then click the **Find Settings** button to retrieve the settings.

Verifying an LDAP address

Use this procedure to verify that the LDAP server address that you are using is valid.

1. Open a Web browser.
2. Using the computer keyboard type `LDAP://[hostname or IP address of LDAP server]` into the browser address box, using the host name or IP address of the LDAP server that you are using for digital sending.
3. Press Enter on the keyboard. If the **Find People** dialog box appears, the LDAP server address is valid. If the dialog box does not appear, contact your network administrator to verify that the server is functioning.

Troubleshooting the LDAP Find Settings process

On the computer click the **Find Settings** button on the **Authentication** tab, the program uses the entries in the **Accessing the LDAP Server** and **Searching the Database** sections of the tab to find the correct settings for your LDAP server. Setting or changing these entries can affect the success of the Find Settings process. Try using the following settings:

1. Select **Anonymous** from the **LDAP Server Bind Method** drop-down list, and then delete any data from the **Search Root** text box so that it is blank.
2. Click **Find Settings**.
3. Click **Test** and type a user name and password to test the software's ability to retrieve an e-mail address. If the test succeeds, your LDAP configuration is complete. If the test fails, continue on to Step 4.
4. Select **Simple** or **Windows Negotiated (SPNEGO)** from the **LDAP Server Bind Method** drop-down list. Select **Use MFP user's credentials**.

NOTE: If you are troubleshooting LDAP settings on the **Addressing** tab or in the **Configure MFP Addressing** settings, the options that appear are slightly different. If you use the Simple or Windows Negotiated bind method, you must specify a user name and password.

5. Click **Find Settings**.

6. Click **Test** and type a user name and password to test the software's ability to retrieve an e-mail address. If the test succeeds, your LDAP configuration is complete. If the test fails, consult with the network administrator.

Finding an SMTP server address

The SMTP Find Server function queries the DNS server for the Mail Exchanger (MX) record. If the Find Servers process fails, try the following steps:

1. Verify that the HP DSS server has obtained valid DNS settings by typing `ipconfig / all` at a computer command prompt.

2. If the ipconfig command returns valid DNS settings, ping the DNS server address to verify communication with the server. For example, type `ping 10.0.0.2` at a command prompt, where 10.0.0.2 is the IP address of the DNS server.

If these two tests succeed, you should have a valid SMTP server. Use the **Add** button on the **E-mail** tab to specify the host name or IP address of the SMTP server, and then use the **Test** button to test the server.

If the test process fails, verify that you have specified the correct SMTP server address. If you have specified the correct address, use a ping command to verify communication with the server. For example, type `ping 10.0.0.2` at a command prompt, where 10.0.0.2 is the IP address of the SMTP server. If the ping command fails, contact the network or mail administrator to verify the network and SMTP server functionality.

Verifying an SMTP address

Use this procedure to verify that the SMTP server address is valid.

1. On the computer, click **Start**, and then click **Run**, and then type `CMD` in the **Open** text box to open a command prompt.

2. Type `Telnet [hostname or IP address of SMTP server] 25`, using the hostname or IP address of the SMTP server you are using for digital sending.

3. Press Enter. You should see a message similar to the following:

   ```
   220 samplemail.hp.com ESMTP Server <Microsoft Exchange Internet Mail
   Service 5.5> ready.
   ```

   If you see this message, the SMTP server address is valid. If you do not see this message, contact the network or mail administrator to verify that the server is functioning.

Resolve network-connectivity problems

Embedded LAN troubleshooting

Although networking is integrated, the embedded LAN has additional features to assist in troubleshooting. These include the following features:

- The ability to turn on and turn off the embedded networking
- An internal diagnostic to check the networking hardware
- The ability to initiate communication from the digital sender to other network devices to check communication paths
- The ability to upgrade the embedded LAN separately from the digital-sender firmware
- Procedures to upgrade the embedded LAN by installing new digital sender firmware (through the networking port)
- A Save + Restore capability for formatter exchanges

Error codes

Some embedded LAN error codes are the same as those for an EIO card. In these cases, the embedded LAN is identified as EIO 4. In other cases, because the embedded LAN is part of the digital sender firmware, the LAN error codes are within the 49.X series.

If problems exist with the embedded LAN, open the Initial Setup menu and then select the Networking and I/O menu. If the Embedded Jetdirect menu does not appear, or if the JDI is disabled or is not installed, do *not* look at the LEDs on the back of the digital sender next to the RJ-45 connector (10/100 LEDs). These LEDs are controlled by hardware and are active regardless of the state of the embedded LAN.

LAN diagnostics

LAN diagnostics are available through the control panel (Administration, Initial Setup, Networking and I/O, Embedded Jetdirect, Diagnostics, Embedded Test). The following are available under Embedded Test:

- Loopback test
- Ping test
- Ping results

Loopback test

NOTE: The loopback test is shown as the LAN HW Test.

Perform a loopback test to check for hardware errors in the embedded LAN. The loopback test is designed to operate for a few hours, overnight, or during the weekend. When it is operating, the digital sender cannot accept network traffic such as digital send jobs.

Use the loopback test to help detect digital sender problems and embedded LAN problems that might be caused by hardware or basic firmware problems. This is done by eliminating the network as a variable in the troubleshooting process.

If a loopback test fails, digital sender or embedded LAN updates might be required, or the formatter might need to be replaced.

NOTE: If the digital sender fails before you open the **Diagnostics** menu item, remove the LAN cable, perform a cold reset on the digital sender, and then perform the loopback test.

Ping test

Perform a ping test to check for network connectivity.

A ping test is designed to troubleshoot TCP/IP network connectivity issues by using key parts of the functionality from the ping utility on Microsoft Windows systems. All Jetdirect products can respond to ping requests, but the embedded LAN can initiate ping requests. All TCP/IP implementations, such as ICMP Echo Response, are required to respond to ping requests.

The following are the ping-test parameters:

- **Destination IP address**: The IP address that you want to contact
- **Packet size**: How many octets of data to send
- **Timeout**: The number of seconds to wait for a response
- **Count**: The number of packets to send

The following are the recommended settings for the ping test:

- **Destination IP address**: Use the local router and then use the remote nodes
- **Packet size**: 64 bytes and then 1,460 bytes
- **Timeout**: 1 second (more time if using a WAN connection)
- **Count**: 4

Ping results

The following information is available from the ping test:

- **Packets Sent**: The total number of ICMP packets that were sent to the remote host during the test (or during the most recent test)
- **Packets Received**: The total number of ICMP packets that were received from the remote host during the test (or during the most recent test)
- **Percent Lost**: The percentage of ICMP packets that were sent but not received from the remote host during the test (or during the most recent test)
- **RTT Min**: The minimum time (in milliseconds) from when an ICMP packet is sent until it is returned from the remote host
- **RTT Max**: The maximum time (in milliseconds) from when an ICMP packet is sent until it is returned from the remote host
- **RTT Average**: The average time (in milliseconds) from when an ICMP packet is sent until it is returned from the remote host (total time/number of packets)

The **View Ping Results** menu indicates whether a ping test is in progress. If a ping test is in progress, then the user can select a menu item to refresh the ping results. The results are not dynamically updated in most cases.

To enable or disable the LAN

1. Turn off the digital sender.
2. Turn on the digital sender.
3. Immediately after turning on the device, press and hold the #6 key on the control panel (do not wait for the memory-count).
4. When all three status LEDs are illuminated, release the #6 key.
5. Press the #3 key to scroll to the **ENABLE/DISABLE EMBEDDED LAN** selection.
6. Press the #6 key once to initiate the enable or disable routine. The digital sender will continue its boot-up sequence.

Hardware-failure troubleshooting for the embedded LAN

If a 49, 79, or 8X error or equivalent occurs, determine if the environment outside of the digital sender is causing the problem or if the problem is in the digital sender.

NOTE: Make a note of the digital-sender network configuration before starting this process.

1. Turn off the digital sender.
2. Remove the network cable.
3. Turn on the digital sender and disable the embedded LAN. (If the test fails, a hardware problem exists. If the test succeeds, go to step 4.)
4. Turn off the digital sender.
5. Turn on the digital sender and enable the embedded LAN. (If the test fails, go to step 6. If the test succeeds, go to step 8.)
6. Turn off the digital sender.
7. Turn on the digital sender and perform a cold reset. (If the test fails, a hardware problem exists. If the test succeeds, go to step 8.)
8. Touch Administration, touch Initial Setup, touch Networking and I/O, touch Embedded Jetdirect, touch Diagnostics, and then touch Embedded Test.
9. Touch LAN HW Test (the loopback test).
10. In the loopback test menu, select Yes. This begins a continuous diagnostic that is stopped only by using a power cycle. A failure is reported with an error message on the control panel. (If the test fails, a hardware problem exists. If the test succeeds, go to step 11.)
11. Turn off the digital sender.
12. Install the network cable.
13. Turn on the digital sender.
14. Restore the network configuration (if necessary).

If the test succeeds, the problem has not been diagnosed. If the test fails, the problem might be a network-firmware issue. Perform a standard Jetdirect-firmware-troubleshooting procedure, and disable all of the unused network protocols and services.

If the digital sender fails when the embedded LAN is enabled and the network cable is unplugged, disable the embedded LAN and upgrade the digital sender by installing the .RFU file.

When enabled, the embedded LAN supports the traditional methods of upgrading a Jetdirect device (FTP, HTTP, Web Jetadmin). In addition, the .RFU is upgraded when the embedded LAN is enabled or disabled.

Connectivity problems

Use the following procedure if the digital sender and the network configuration information are correct, but the network digital sender connectivity is not working.

1. Make a note of the digital sender network configuration information.
2. Touch Administration, touch Initial Setup, touch Networking and I/O, touch Embedded Jetdirect, touch Diagnostics, and then touch Embedded Test.
3. Touch LAN HW Test (the loopback test).
4. In the loopback test menu, select Yes. This begins a continuous diagnostic that is only stopped by using a power cycle. A failure is reported in an error message that appears on the control panel. (If the test fails, a hardware problem exists. If the test succeeds, go to step 5.)
5. Turn off the digital sender.
6. Turn on the digital sender.
7. Reenter the network configuration information.
8. Touch Administration, touch Initial Setup, touch Networking and I/O, touch Embedded Jetdirect, touch Diagnostics, and then touch Embedded Test.
9. Touch Ping Test.
10. Specify the destination IP address (the default is 127.0.0.1).
11. Specify the packet size (64 to 2,048, with a default of 64).
12. Specify the count (0 to 100, with a default of 4).
13. Specify the timeout (1 to 100 seconds, with a default of 1).

NOTE: Use different IP addresses to test the network connectivity. Results are obtained by opening the **Ping Results** menu and selecting the individual menu items.

The embedded Jetdirect and EIO cards can work together simultaneously. Or, if necessary as part of troubleshooting, the embedded Jetdirect can be disabled and an EIO card can be installed.

Verifying communication over the network

If the HP Jetdirect configuration page shows an IP address for the digital sender, use this procedure to verify that the digital sender is communicating with other devices on the network.

To verify communication over the network

1. On a computer open a command prompt. Click **Start**, click **Run**, and then type `cmd`. An MS-DOS command prompt opens.
2. Type `ping` followed by the IP address. For example, type `ping XXX.XXX.XXX.XXX` where "XXX.XXX.XXX.XXX" is the IP address that appears on the HP Jetdirect configuration page. If the digital sender is communicating over the network, the response is a list of replies from the digital sender.
3. Verify that the IP address is not a duplicate address on the network by using the address resolution protocol (arp -a) command. At the prompt, type `arp -a`. Find the IP address in the list and compare its physical address to the hardware address that is listed on the HP Jetdirect configuration screen in the section called HP Jetdirect Configuration. If the addresses match, all network communications are valid.
4. If you cannot verify that the digital sender is communicating over the network, contact the network administrator.

Service-mode functions

The following routines are available for resetting the digital sender.

Cold reset

A cold reset resets the values of permanent storage variables to factory default. Often this is necessary for clearing the HP MFP Digital Sending Server IP address.

The following items are cleared during a cold reset:

- Embedded Jetdirect IP address
- SMTP IP address
- LDAP IP address
- Embedded Web server password
- All control-panel configurable items

The following items are *NOT* cleared during a cold reset:

- Local address book e-mail addresses
- Real-time clock (date and time)
- Page counts and maintenance counts
- Product serial number and formatter number
- Service ID
- Event log

To perform a cold reset

1. Turn off the digital sender.
2. Turn on the digital sender.
3. Immediately after turning on the device, press and hold down the #6 key (do not wait for the memory-count). When the three status LEDs are illuminated, release the #6 key.
4. Press the #3 key four times until the display shows **COLD RESET**.
5. Press the #6 key once to initiate the cold reset. The product will continue its boot-up sequence.

NVRAM initialization

The NVRAM initialization (partial) deletes the stored values in the digital sender. The following items are preserved after a partial NVRAM initialization:

- Model number
- Serial number
- Usage data

- Event-log data
- Service ID

NOTE: Make a note of the digital sender configuration information before performing an NVRAM initialization. Some configuration information will be lost.

To perform a partial NVRAM initialization

1. Turn off the digital sender.
2. Turn on the digital sender.
3. Immediately after turning on the device, press and hold down the #9 key (do not wait for the memory-count). When the three status LEDs are illuminated, release the #9 key.
4. Press the #3 key one time and then press Start.
5. Press the #3 key two times until the display reads **NVRAM INIT**.
6. Press the #6 key once to initiate the NVRAM initialization. The product will continue its boot-up sequence.

Disk initialization

The disk-initialization routine reformats each of the read-write file systems on the product hard disk drive. The procedure does not destroy the contents of the permanent storage variables (critical values such as serial numbers, page counts, IP addresses, and maintenance counts).

The following items are deleted during a disk initialization:

- Local address books
- Downloaded Java™ applet files

To perform a disk initialization

1. Turn off the digital sender.
2. Turn on the digital sender.
3. Immediately after turning on the device, press and hold down the right-hand side of the control-panel Start key (do not wait for the memory-count). When the three status LEDs are illuminated, release the key.
4. Press the #5 key one time until **INITIALIZE DISK** appears.
5. Press the #6 key one time to initiate the disk initialization. The digital sender reboots.

Service menu

The following items are available on the control-panel **Service** menu. The PIN code for access to the **Service** menu is **03925007**.

- Clear Event Log
- Document Feeder Kit Count
- Document Feeder Kit Interval
- ADF Count
- Flatbed Count
- ADF Simplex Count
- ADF Duplex Count
- Send Scan Count
- Scanner Settings

  NOTE: The Scanner Settings are used for factory adjustments and should not be used by service personnel. Use the scanner calibration routine to adjust the scanner settings if necessary.

- Serial Number
- Service ID
- Cold Reset Paper

Troubleshooting tools

Embedded Web server

The digital sender is equipped with an embedded Web server (EWS), which provides access to information about digital sending and network activities. When a Web server is "embedded," it resides on a hardware device (such as a digital sender) in the firmware, rather than as software that is loaded on a network server. The advantage of an embedded Web server is that it provides an interface to the device that anyone who has a network-connected computer and a standard Web browser can use. You do not need to install or configure any special software.

Features

Use the EWS to view the digital sender and network status and to manage digital sending functions from your computer. With the EWS, you can complete the following tasks:

- View digital-sender status information
- Determine the remaining life on the ADF maintenance kit
- View the control-panel menu configuration
- View device configuration reports
- Receive notification of digital-sender events
- Add or customize links to other Web sites
- Select the language in which to show the embedded Web server pages
- View and change network configuration

View the EWS Web pages

To view the EWS Web pages, you need to have the IP address for the digital sender. You can find the IP address in one of the two following ways:

- Go to the digital sender and look at the upper-left corner of the touchscreen. The IP address should appear next to the word **Ready**.
- If the IP address does not appear on the touchscreen, press the Menu button on the control panel. Touch the **INFORMATION** menu, and then touch **CONFIGURATION**. The digital-sender configuration information appears on the touchscreen. Touch the **Next** button to see the Jetdirect data. Scroll through the information until you find the IP address.

On a computer, open a Web browser and type the digital sender IP address into the **Address** box to open the EWS Web page.

NOTE: You can gain access to the embedded Web server from any operating system that supports the TCP/IP protocol and a Web browser, preferably either Netscape Navigator 4.7x or Microsoft Internet Explorer 5.0x or later. You cannot view the embedded Web server pages from outside a firewall.

Information pages

The pages on the **Information** tab of the embedded Web server provide status information for the digital sender.

- **Device Status page** - This page shows the status message that currently appears on the device control panel.
- **Configuration page** - The digital-sender Configuration page lists device information that includes the serial number, and other information about the device. It also has an **Options** list that lists options that are installed in each DIMM slot, CompactFlash slot, and EIO slot. The **Memory** section of the page lists the digital-sender memory (RAM) information, and the **Security** section lists the status of the security features.
- **Supplies Status page** - This page shows the status of the ADF maintenance kit, and indicates how soon it needs to be replaced.
- **Usage page** - This page shows how many pages the device has scanned and how many of those have been scanned with the ADF and with the flatbed.
- **Device Information page** - This page lists the device name for network management needs, and shows the IP address for the device.

NOTE: The device name can be edited on the **Settings** tab.

- **Control Panel page** - The Control Panel page shows a snapshot of the current state of the control panel. Click the Refresh Image button to refresh the snapshot.

Settings pages

The pages on the **Settings** tab of the EWS contain a variety of digital-sender settings.

- **Configure Device page** - The options on this page are the same as some of the menus on the device control panel. Use this page to configure some of the digital-sending options.
- **E-mail Server page** - Use this page to set up the SMTP server that should be used to send digital sender e-mail alerts (set up on the Alerts page).
- **Alerts page** - Use this page to set up e-mail alerts for many digital-sender events. These alerts can be sent to a list of up to 20 e-mail, mobile device, or Web site destinations.
- **AutoSend page** - Use the AutoSend screen to send product-configuration and usage information periodically to your service provider. This feature establishes a relationship with Hewlett-Packard Company or another service provider to provide services that include support agreements and usage tracking.
- **Security page** - Use the Security page to set up a password to prevent unauthorized users from gaining access to device configuration settings. After a password has been set, any user who opens the EWS Web page only sees the **Information** tab. To view the other tabs, click the Log In link in the upper-right corner of the screen and log in by using the password.

NOTE: For security reasons, it is strongly recommended that you set up a password to protect the digital sender EWS. This prevents unauthorized users from making configuration changes.

- **Edit Other Links page** - Use this page to add links to the Other Links box, which appears in the lower-left corner of the EWS Web pages.

- **Device Information page** - Use this page to change the device name, asset number, and company contact information.
- **Language page** - Use this page to specify the language that the EWS Web pages use.
- **Date and Time page** - Use this page to set the correct date and time for the device.
- **Wake Time page** - The Wake Time can be set to wake the product up at a certain time on a daily basis. You can have only one wakeup setting per day; however, each day can have a different wakeup time. The sleep mode delay can also be set on this page.

Digital sending pages

You do not have access to any of the configuration settings on the **Digital Sending** tab of the EWS if the digital sender is using the HP DSS service. The pages on the **Digital Sending** tab control the configuration of the digital sending features. Because the digital sender uses the HP DSS service to carry out its digital sending tasks, it must be configured by using the HP MFP DSS Configuration Utility. This centralizes the configuration tasks and helps control security.

Networking pages

The pages on the **Networking** tab of the EWS provide information about the digital sender HP Jetdirect Inside embedded network connection and contain tools that you can use to configure some specific network settings.

HP Web Jetadmin software

HP Web Jetadmin is a server-based online tool that system administrators can use to configure all of the ERS and digital senders on their network. If you have a number of HP digital senders and printers, this is a useful tool for controlling and configuring them as a group rather than one by one. For supported host systems and available languages, and to download the software, go to http://www.hp.com/go/webjetadmin.

Diagnostic tools

Diagnostic tests can be run from the control panel to validate the hardware operation.

Scanner tests

The following diagnostic tests are available for the scanner. They can be found in the **Troubleshooting** menu on the control panel.

- Lower lamp: This test turns on the lamp and a “Lower Lamp (scanner) is on” message appears on the control panel. The user must verify that the lamp is on.
- Sensors: This tests the ADF Empty, Register, ADF Jam Cover, ADF Output Bin Full, and Flatbed Cover Open sensors. The user must manually activate the sensors to verify them.
- ADF input motor: This test turns on the ADF input motor and a “ADF Input Motor is on” message appears on the control panel. The user must verify that the motor is on.
- ADF input reverse: This test turns on the ADF input motor and a “ADF Input Motor is on” message appears on the control panel. The user must verify that the motor is on.
- Flatbed motor: This test turns on the flatbed motor and a “ADF Output Motor is on” message appears on the control panel. The user must verify that the motor is on.
- ADF read motor: This test turns on the ADF read motor and a “ADF Read Motor is on” message appears on the control panel. The user must verify that the motor is on.
- ADF read motor reverse: This test turns on the ADF read motor and a “ADF Read Motor is on” message appears on the control panel. The user must verify that the motor is on.
- ADF duplex solenoid: This test turns on the ADF duplex solenoid and an “ADF Duplex Solenoid” message appears on the control panel. The user can verify that the solenoid is activated and deactivated by listening for a distinct sound. The solenoid activates once when the “ADF Duplex Solenoid” is touched and it deactivates once when “OK” is touched.
- ADF LED indicator: This test turns on the ADF LED indicator and an “ADF LED Indicator” message appears on the control panel. The ADF input LED illuminates when “ADF LED Indicator” is touched, and the ADF input LED is turned off when “OK” is touched. When “OK” is touched the user can hear the ADF motor activating.

Control-panel tests

In addition to the scanner tests in the **DIAGNOSTICS** menu, the following diagnostic tests are available for the control panel.

LED test

Follow these instructions to test the functionality of the control-panel LEDs.

1. Touch Administration, touch Troubleshooting, and then touch Control Panel.
2. Touch LEDs. The LEDs test turns each LED on and off in order to verify its functionality.

Display test

Follow these instructions to test the functionality of the control-panel display.

1. Touch Administration, touch Troubleshooting, and then touch Control Panel.
2. Touch Display. The display test shows test patterns on the control-panel display.

Buttons test

Follow these instructions to test the functionality of the control-panel buttons.

1. Touch Administration, touch Troubleshooting, and then touch Control Panel.
2. Touch Buttons. The buttons test directs you to press each control-panel button to test its functionality.

Touchscreen test

Follow these instructions to test the functionality of the control-panel touchscreen.

1. Touch Administration, touch Troubleshooting, and then touch Control Panel.
2. Touch Touchscreen. The touchscreen test divides the screen into a grid and then asks you to touch each section of the grid to test its functionality.

Upgrade the firmware

The HP 9250C Digital Sender features remote firmware update (RFU) capability. Use the following steps for remotely upgrading digital-sender firmware. These steps are explained in more detail in the following sections.

1. Determine the current level of firmware installed on the device.
2. Go to the Web site and find out whether a new version is available. If it is, download the latest firmware to your computer.
3. Download the new firmware to the device.

Determine the current level of firmware

1. Open the configuration page on the device control panel. See the user guide.
2. Scroll to the configuration section marked **Device Information** to find the firmware date code. The firmware date code looks something like this: 20030502 05.003.0

Download new firmware from the HP Web site

To find the most recent firmware upgrade for the digital sender, go to www.hp.com/go/9250c_firmware. This page also contains instructions about how to download the new firmware version.

Download the new firmware version from the Web site, and then use one of the methods in the following sections to update the digital sender firmware.

Use FTP to upgrade the firmware on a direct network connection

The device must be in a "Ready" state to receive an .RFU file update. Any jobs that are ahead of the RFU job in the queue are completed before the update is processed.

The elapsed time for an update depends on the I/O transfer time, as well as the time that it takes for the device to reinitialize. The I/O transfer time depends on a number of things, including the speed of the host computer that is sending the update. If the remote firmware update process is interrupted before the firmware is downloaded (while **Receiving Upgrade** appears on the control-panel display), the firmware file must be sent again. If power is lost during the flash DIMM update (while the **Performing Upgrade** message appears on the control-panel display), the update is interrupted and the message **Resend Upgrade** appears (in English only) on the control-panel display.

Follow these instructions to perform the upgrade by using FTP.

NOTE: The firmware update involves a change in the format of nonvolatile random-access memory (NVRAM). Any menu settings that are changed from the default settings might return to default settings and must be changed again if you want settings that are different from the defaults.

1. If you do not already have it, get the TCP/IP address of the digital sender from the EIO Jetdirect page. The HP Jetdirect page is the second page that you see when viewing the configuration page on the control panel.

   NOTE: Before connecting to the digital sender, make sure that it is not in Sleep mode. Also make sure that any error messages are cleared from the control-panel display.

2. Open a command window on your computer.

3. Type: `ftp <TCP/IP ADDRESS>`. For example, if the TCP/IP address is 192.168.0.90, type `ftp 192.168.0.90`.
4. Press Enter on the keyboard.
5. When prompted for the user name, press Enter.
6. When prompted for the password, press Enter.
7. Type `bin` at the command prompt.
8. Press Enter. The message **200 Types set to I, Using binary mode to transfer files** appears in the command window.
9. Type `put <FILENAME>`, where <FILENAME> is the path to the .RFU file that was downloaded from the Web. For example, type `put C:\LJ\9250FW.RFU`, and then press Enter.

NOTE: If the file name or path includes a space, you must enclose the file name or path in quotation marks. For example, type `put "C:\MY DOCUMENTS\LJ\9250FW.RFU"`

The following series of messages appears in the command window:

200 PORT command successful

150 Opening BINARY mode data connection

226 Ready

226 Processing Job

226 Transfer complete

Then, a message containing transfer-speed information appears.

10. The download process begins and the firmware is updated on the device. This can take about five minutes. Let the process finish without further interaction with the device or computer.

NOTE: The digital sender automatically restarts the firmware after processing the upgrade.

11. At the command prompt, type `bye` to exit the ftp command.
12. At the command prompt, type `exit` to return to the Windows interface.

Use HP Web Jetadmin to upgrade the firmware

This procedure requires that you have HP Web Jetadmin Version 7.0 or later installed. Complete the following steps to update a single device through HP Web Jetadmin after downloading the .RFU file from the HP Web site.

1. Start HP Web Jetadmin.
2. Open the **Device Management** folder in the drop-down list in the **Navigation** panel. Navigate to the **Device Lists** folder.
3. Expand the **Device Lists** folder and select **All Devices**. Locate the digital sender that you want to update in the list of devices, and then click to select it.
4. Locate the drop-down box for **Device Tools** in the upper-right corner of the window. Select **Update Printer Firmware** from the action list.

5. Click **Browse** under **Upload New Firmware Image** and navigate to the location of the .RFU file that you downloaded from the Web at the start of this procedure. Select the file.
6. Click **Upload** to move the .RFU file to the correct location on the HP Web Jetadmin server. After the upload is complete, the browser window refreshes.
7. Select the new .RFU date code from the **Select New Firmware Version** drop-down menu.
8. Click **Update Firmware Now**. HP Web Jetadmin sends the selected .RFU file to the device. The digital-sender control panel shows messages that indicate the progress of the upgrade. At the end of the upgrade process, the digital sender restarts the firmware.

Upgrade the HP Jetdirect Inside firmware

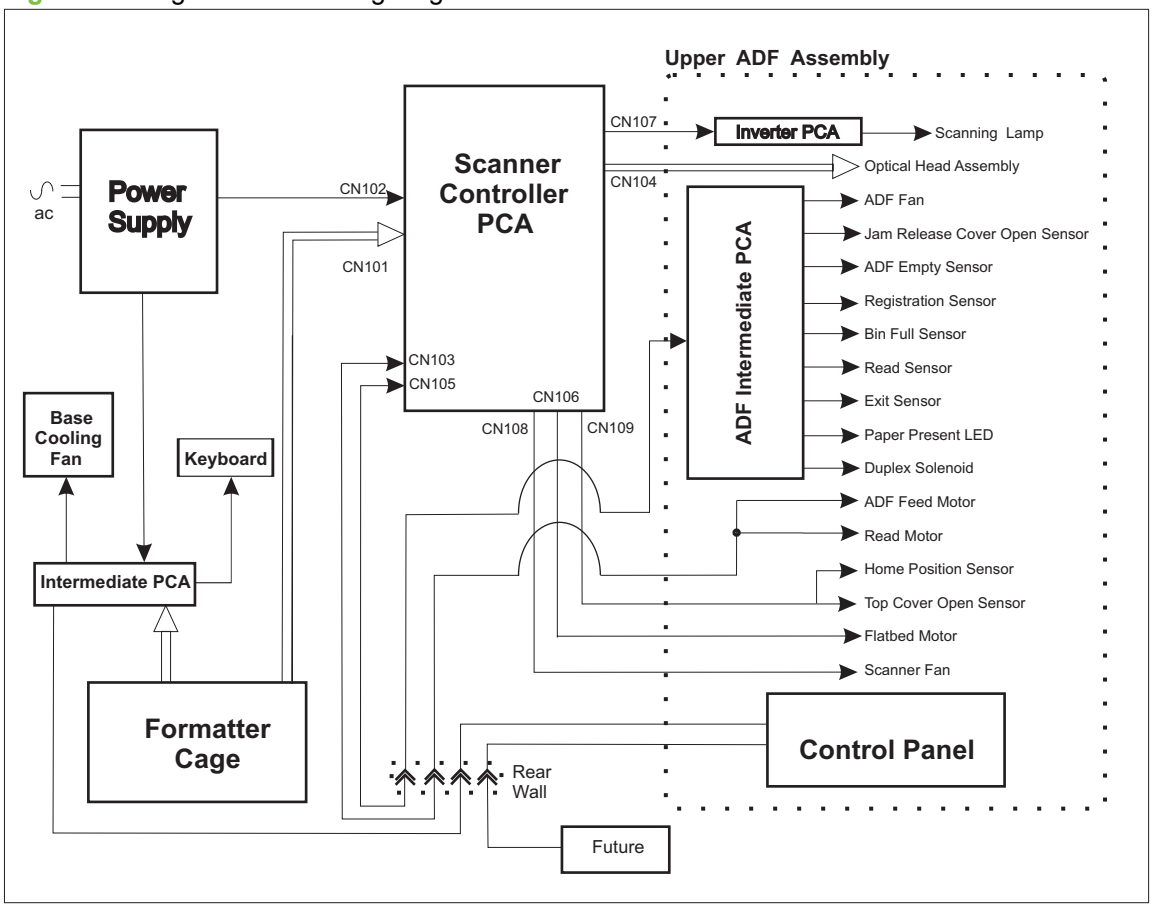
The HP Jetdirect Inside network interface in the device has firmware that can be upgraded separately from the digital-sender firmware. This procedure requires that you have HP Web Jetadmin Version 6.2 or greater installed. Complete the following steps to update the HP Jetdirect firmware with HP Web Jetadmin.

1. Open the Web Jetadmin program.
2. Open the **Device Management** folder in the drop-down list in the **Navigation** panel. Navigate to the **Device Lists** folder.
3. Select the device that you want to update.
4. In the **Device Tools** drop-down list, select **Jetdirect Firmware Update**.
5. Under **Jetdirect firmware version** the Jetdirect model number and current firmware version are listed. Make a note of these.
6. Go to www.hp.com/go/wja_firmware.
7. Scroll down to the list of Jetdirect model numbers and find the model number that you wrote down.
8. Look at the current firmware version for the model, and see if it is later than the version that you wrote down. If it is, right-click on the firmware link, following the instructions on the Web page to download the new firmware file. The file must be saved into <drive>:\PROGRAM FILES\HP WEB JETADMIN\DOC\PLUGINS\HPWJA\FIRMWARE\JETDIRECT on the computer that is running the HP Web Jetadmin software.
9. In Web Jetadmin, return to the main device list and select the digital sender again.
10. In the **Device Tools** drop-down list, select **Jetdirect Firmware Update** again.
11. On the Jetdirect firmware page, the new firmware version appears under **Jetdirect Firmware Available on HP Web Jetadmin**. Click the **Update Firmware Now** button to update the Jetdirect firmware.

Troubleshooting diagrams

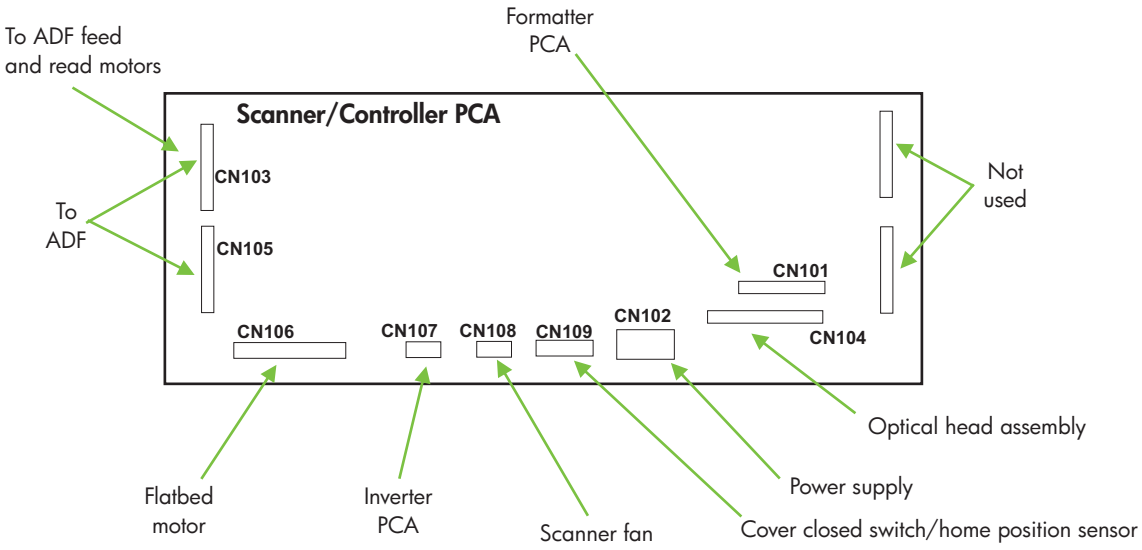
Digital-sender wiring diagram

Figure 6-3 Digital sender wiring diagram



Scanner controller board diagram

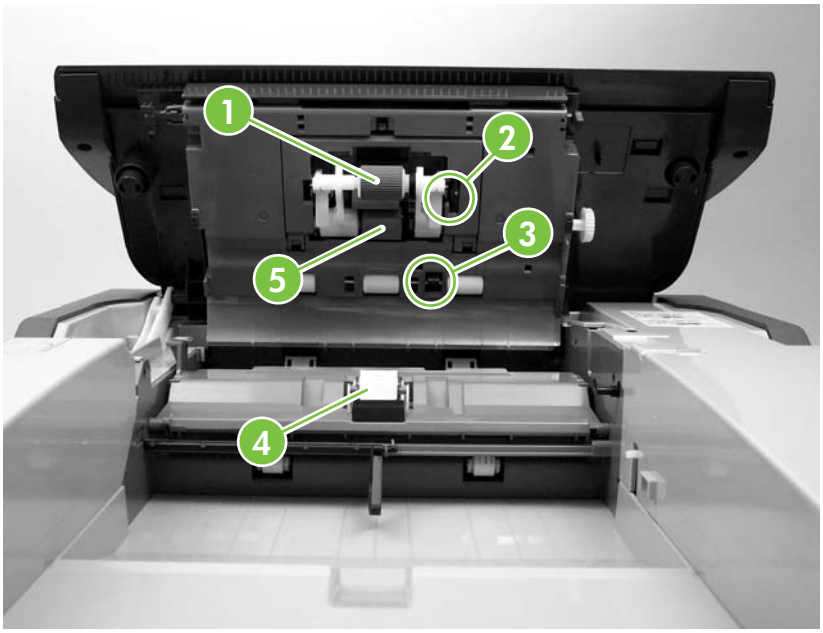
Figure 6-4 Scanner controller board


To ADF feed
and read motors
Formatter
PCA
Scanner/Controller PCA
CN103
To
ADF
CN105
Not
used
CN101
CN102
CN106
CN107
CN108
CN109
CN104
Optical head assembly
Power supply
Flatbed
motor
Inverter
PCA
Scanner fan
Cover closed switch/home position sensor

Parts used in troubleshooting

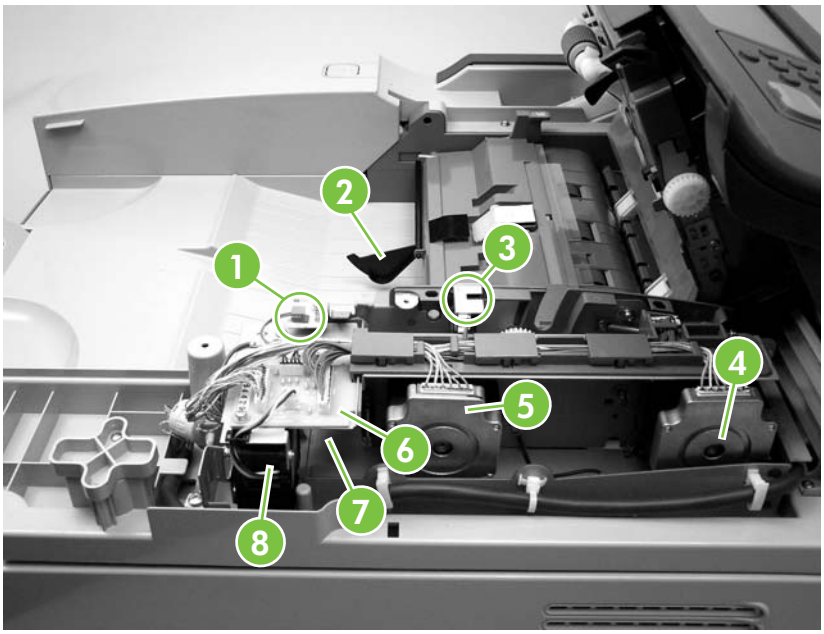
The following illustrations show the locations of parts that have been mentioned in the troubleshooting procedures.

Figure 6-5 ADF troubleshooting parts



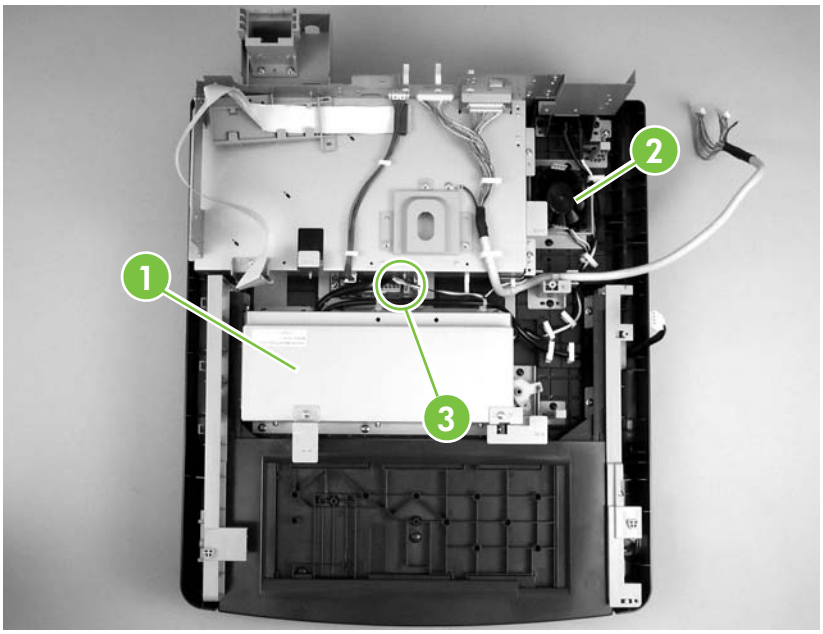
1. ADF pickup roller
2. ADF empty sensor flag
3. Registration sensor flag
4. Separation pad
5. ADF separation roller

Figure 6-6 ADF internal troubleshooting parts



1. Paper present LED
2. Bin full sensor flag
3. Jam release cover open sensor
4. ADF read motor
5. ADF feed motor
6. ADF intermediate PCA
7. Duplex solenoid (beneath the PCA)
8. ADF cooling fan

Figure 6-7 Flatbed base troubleshooting parts



1. Power supply
2. Scanner base fan
3. Intermediate PCA

Figure 6-8 Rear troubleshooting parts

1. Formatter cage
2. Embedded Jetdirect I/O port

7 Parts and diagrams

This chapter contains information about the following topics:

- Ordering parts and supplies
- How to use the parts diagrams and lists
- Screws that are used in the digital sender
- Related documentation and software
- Customer-replaceable components
- ADF components
- Scanner and bottom assemblies
- Alphabetical parts list
- Numerical parts list

Ordering parts and supplies

All standard part numbers that are listed in this chapter can be ordered from the HP Customer Services and Support Organization. To search for HP product parts by using the HP product name, the model number, or the part number, go to www.partsurfer.hp.com. You can also choose the HP product from a list.

To order parts, go to www.hp.com/buyparts.

How to use the parts diagrams and lists

The figures in this chapter illustrate the major field replaceable unit (FRU) assemblies and sub assemblies in the HP Digital Sender 9250c. A table (parts number list) follows each exploded assembly diagram. The tables list a reference number for each specific part, the part number, and a brief description of the part.

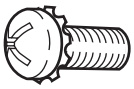
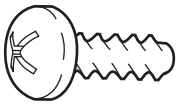
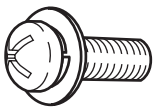
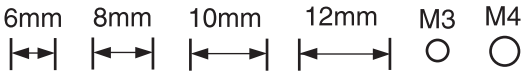
NOTE: Parts that do not have a reference number, or part numbers that are not FRUs, cannot be ordered as individual replacement parts. However, all serviceable parts should be available as part of a larger orderable sub assembly.

Screws that are used in the digital sender

This table describes the screws used in the digital sender and provides guidelines to help determine where each type of screw is used. The screws can vary in length depending on the thickness of the material that is being fastened. Always note where each type of screw is located and replace each one in its original location.

NOTE: When you are disassembling the product, place the screws into the chassis holes from which they were removed. This prevents their loss, and ensures that the proper type and length of screw for each location is used when the product is reassembled

Table 7-1 Common fasteners

Drawing and description	Purpose
 Phillips-head machine screw with captive star washer	This screw is used to fasten metal to metal when good electrical contact is needed. This screw also provides high resistance to loosening.
 Phillips-head screw with self-tapping threads	This screw is used to fasten sheet metal or plastic to plastic frames (the deep, coarsely spaced threads provide an increased holding capability while decreasing the possibility of stripping the target hole). **NOTE:** To install a self-tapping screw, first turn it counterclockwise to align it with the existing thread pattern, and then carefully turn it clockwise to tighten it. You will feel resistance and hear the screw click when it engages the existing threads in the hole. Do not overtighten the screw. If a self-tapping screw-hole becomes stripped, repair the screw-hole or replace the affected assembly.
 Phillips washer-head machine screw with a broad, flat washer attached to the screw head	This screw is used to fasten sheet metal parts to the sheet metal chassis. It spans large clearance holes and distributes the load by increasing the bearing surface.
Screw measurement guide 	

Related documentation and software

Figure 7-1 Related documentation and software

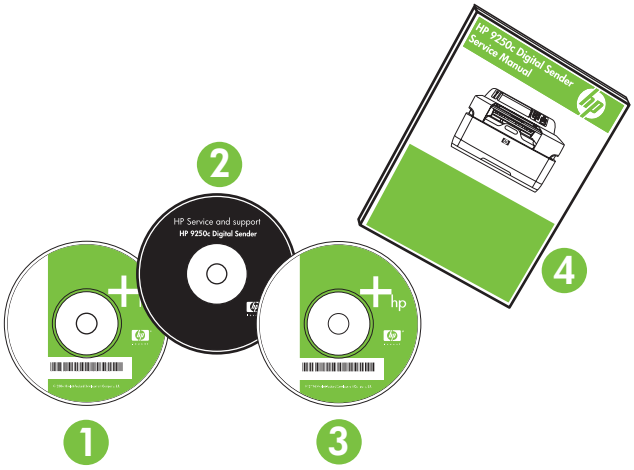


Table 7-2 Related documentation and software

Reference	Description	Part Number	Quantity
1	HP Digital Sender Software (Version 4.9) CD	T1936-14008	
2	Service and Support CD	CB472-60158	
3	User Guide CD	CB472-60141	
4	HP 9250c Digital Sender Service Manual	CB472-90938	

Customer-replaceable components

Figure 7-2 Customer-replaceable components

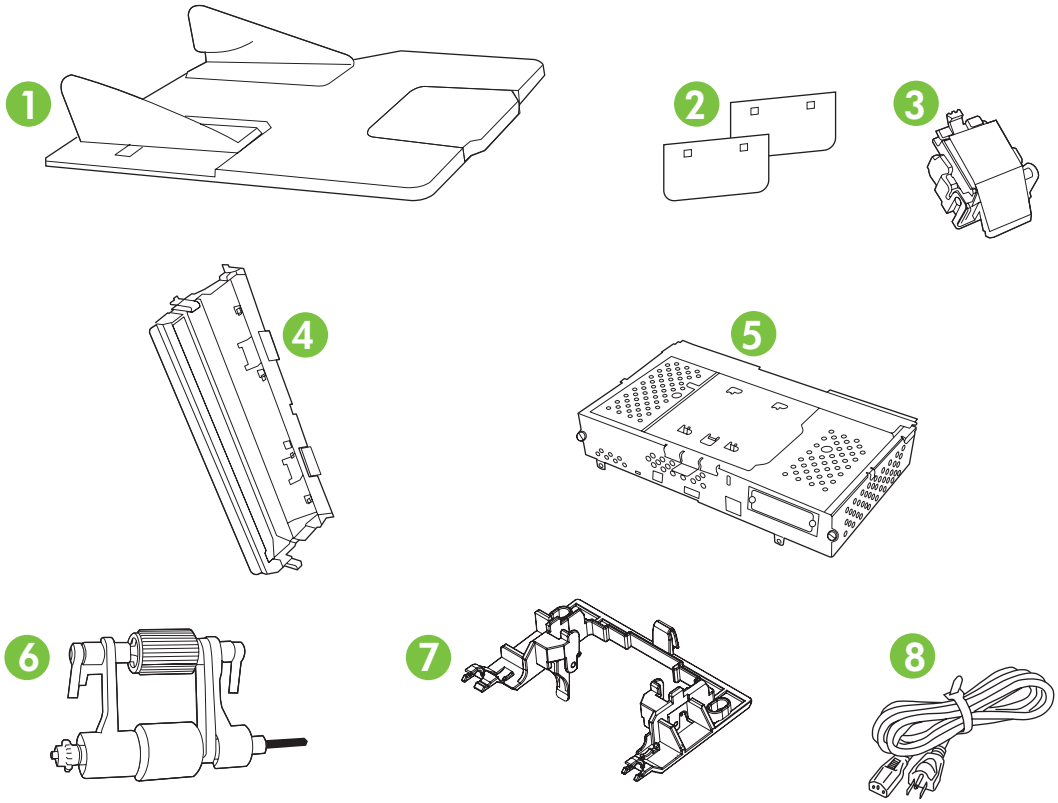


Table 7-3 Customer-replaceable components

Reference	Description	Part Number	Quantity
1	Paper input tray, ADF	PF2284K042NI	1
2	Hinge flaps	PF2284K153NI	2
3	Separation pad	PF2282K035NI	1
4	Mylar holder assembly	PF2282K043NI	1
5	Formatter assembly	CB472-67906	1
6	Pickup roller assembly	PF2282K039NI	1
7	Pickup roller cover	PF2282K040NI	1
8	Power cord for Europe (generic)	8121-0731	1
8	Power cord for Denmark	8121-0733	1
8	Power cord for Japan	8121-0736	1
8	Power cord for South Africa	8121-0737	1
8	Power cord for Switzerland	8121-0738	1
8	Power cord for the United Kingdom, Singapore, Hong Kong, and Malaysia	8121-0739	1
8	Power cord for North America	8121-0740	1
8	Power cord for China	8121-0943	1
8	Power cord for Taiwan	8121-0964	1
8	Power cord for Israel	8121-1004	1

Figure 7-3 Control-panel overlays

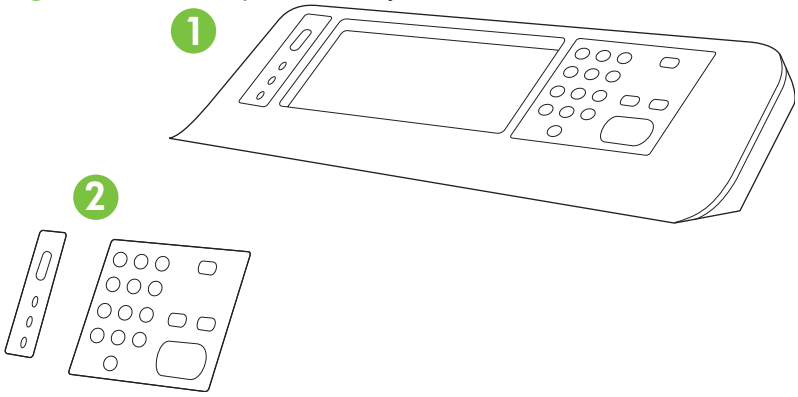


Table 7-4 Control-panel overlays

Reference	Description	Part Number	Quantity
1	Control-panel assembly	CB472-67905	1
2	Control-panel overlay—EN (English)	CB472-60105	1
2	Control-panel overlay—FR (French)	CB472-60106	1
2	Control-panel overlay—IT (Italian)	CB472-60107	1
2	Control-panel overlay—DE (German)	CB472-60108	1
2	Control-panel overlay—ES (Spanish)	CB472-60109	1
2	Control-panel overlay—NL (Dutch)	CB472-60110	1
2	Control-panel overlay—PT (Portuguese)	CB472-60111	1
2	Control-panel overlay—NO (Norwegian)	CB472-60112	1
2	Control-panel overlay—SV (Swedish)	CB472-60113	1
2	Control-panel overlay—FI (Finnish)	CB472-60114	1
2	Control-panel overlay—DA (Danish)	CB472-60115	1
2	Control-panel overlay—PL (Polish)	CB472-60116	1
2	Control-panel overlay—RU (Russian)	CB472-60117	1
2	Control-panel overlay—CS (Czech)	CB472-60118	1
2	Control-panel overlay—HU (Hungarian)	CB472-60119	1
2	Control-panel overlay—ZHTW (Traditional Chinese)	CB472-60120	1
2	Control-panel overlay—ZHCN (Simplified Chinese)	CB472-60121	1
2	Control-panel overlay—KO (Korean)	CB472-60122	1
2	Control-panel overlay—JA (Japanese)	CB472-60123	1
2	Control-panel overlay—TR (Turkish)	CB472-60124	1
2	Control-panel overlay—HE (Hebrew)	CB472-60125	1
2	Control-panel overlay—EL (Greek)	CB472-60126	1
2	Control-panel overlay—AR (Arabic)	CB472-60127	1
2	Control-panel overlay—TH (Thai)	CB472-60128	1

Figure 7-4 Maintenance kits

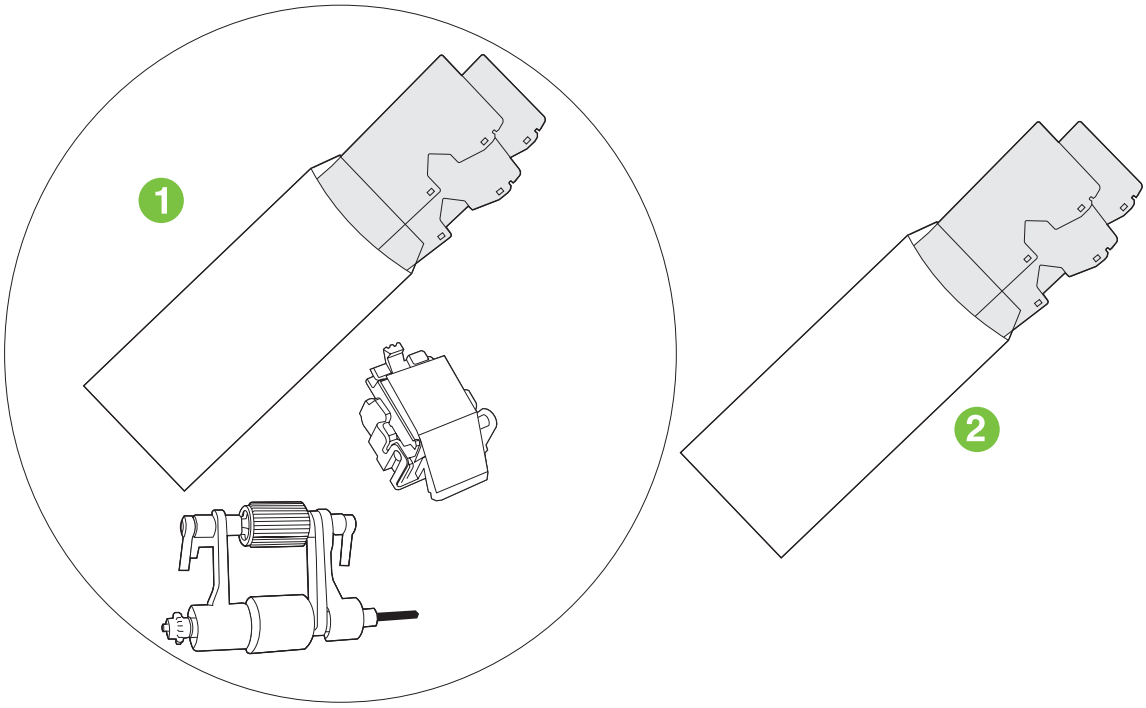


Table 7-5 Maintenance kits

Reference	Description	Part Number	Quantity
1	ADF maintenance kit	Q5997–67901	1
2	Mylar replacement kit (3 mylar sheets)	Q6496–67901	1

Figure 7-5 Memory

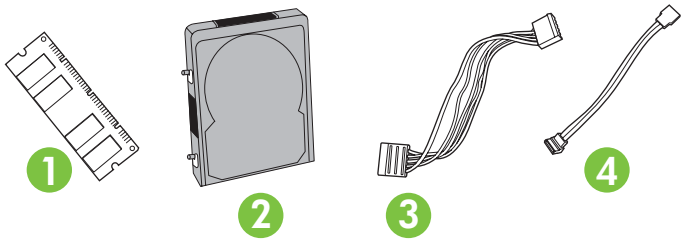


Table 7-6 Memory

Reference	Description	Part Number	Quantity
1	DIMM-32 MB DDR 100-pin SDRAM	Q7713A	1
1	DIMM-64 MB DDR 100-pin SDRAM	Q7715A	1
1	DIMM-128 MB DDR 100-pin SDRAM	Q7718A	1
1	DIMM-256 MB DDR 100-pin SDRAM	Q7719A	1
2	Hard-disk drive, 40 MB or larger	CB472-67902	1
3	Data cable for hard-disk drive	5851-2502	1
4	Power cable for hard-disk drive	5851-3051	1

ADF components

Figure 7-6 ADF Assembly

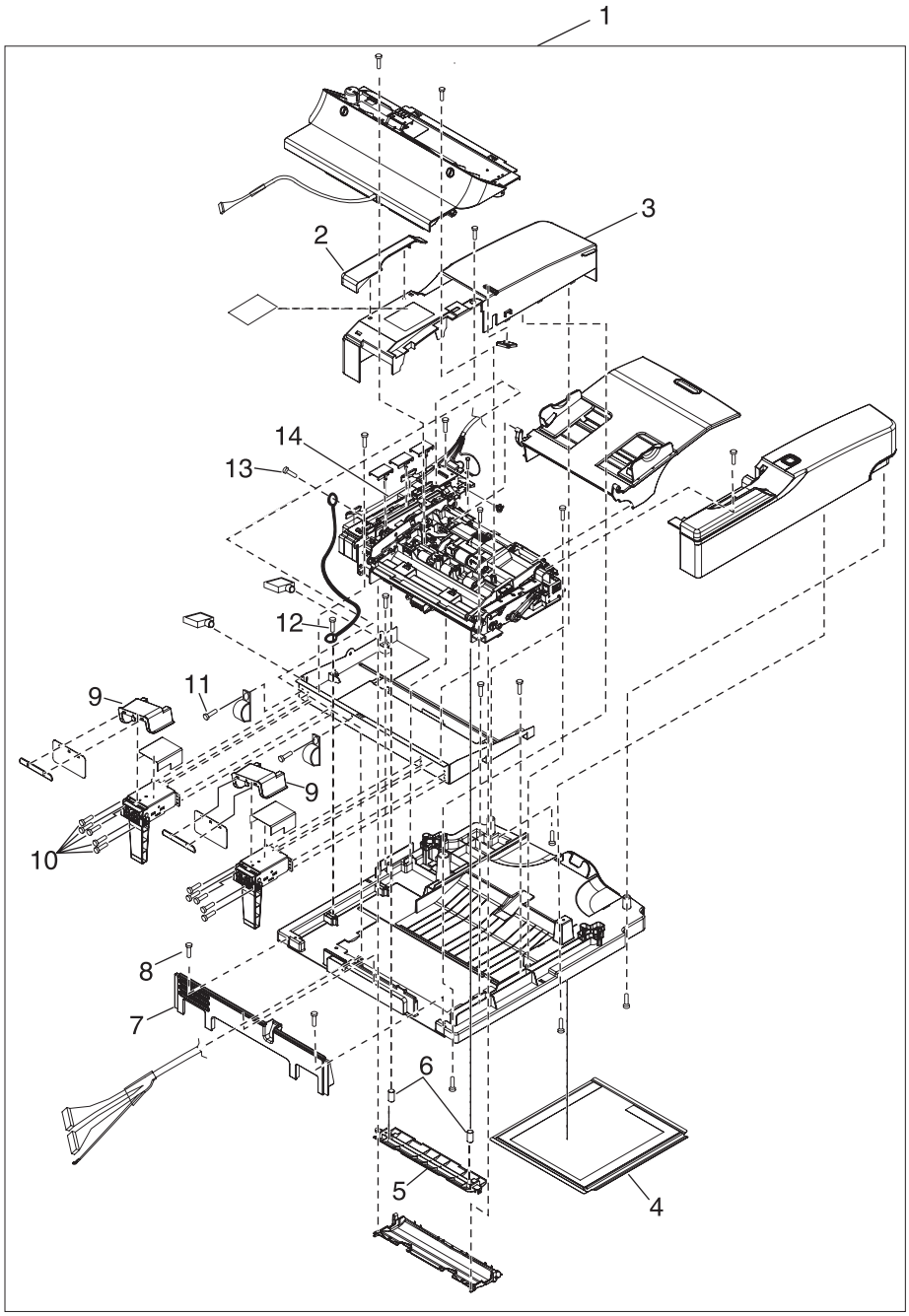


Table 7-7 ADF Assembly

Reference	Description	Part Number	Quantity
1	ADF assembly	PF2284-SVPNI	1
2	ADF right cover corner	PF2284P079NI	1
3	ADF right cover	PF2284P044NI	1
4	White scan background	PF2282P339NI	1
5	White mylar backing	PF2282P025NI	1
6	White mylar backing springs	PF2282P343NI	2
7	ADF rear cover	PF2284P086NI	1
8	Screw, ADF, wave 3x10	NS-SCR-00027NI	40
9	Upper hinge cover	PF2284P088NI	2
10	Screw, ADF, 03T060SR-W	NS-SCR00016NI	17
11	Screw, ADF	030080FWWSNI	4
12	Screw, ADF, wave 4x10	NS-SCR-00056NI	7
13	Screw, ADF, 3x6 w/washer	030060FWWSNI	18
14	ADF cable	PF2284K500NI	1

Figure 7-7 ADF base assembly

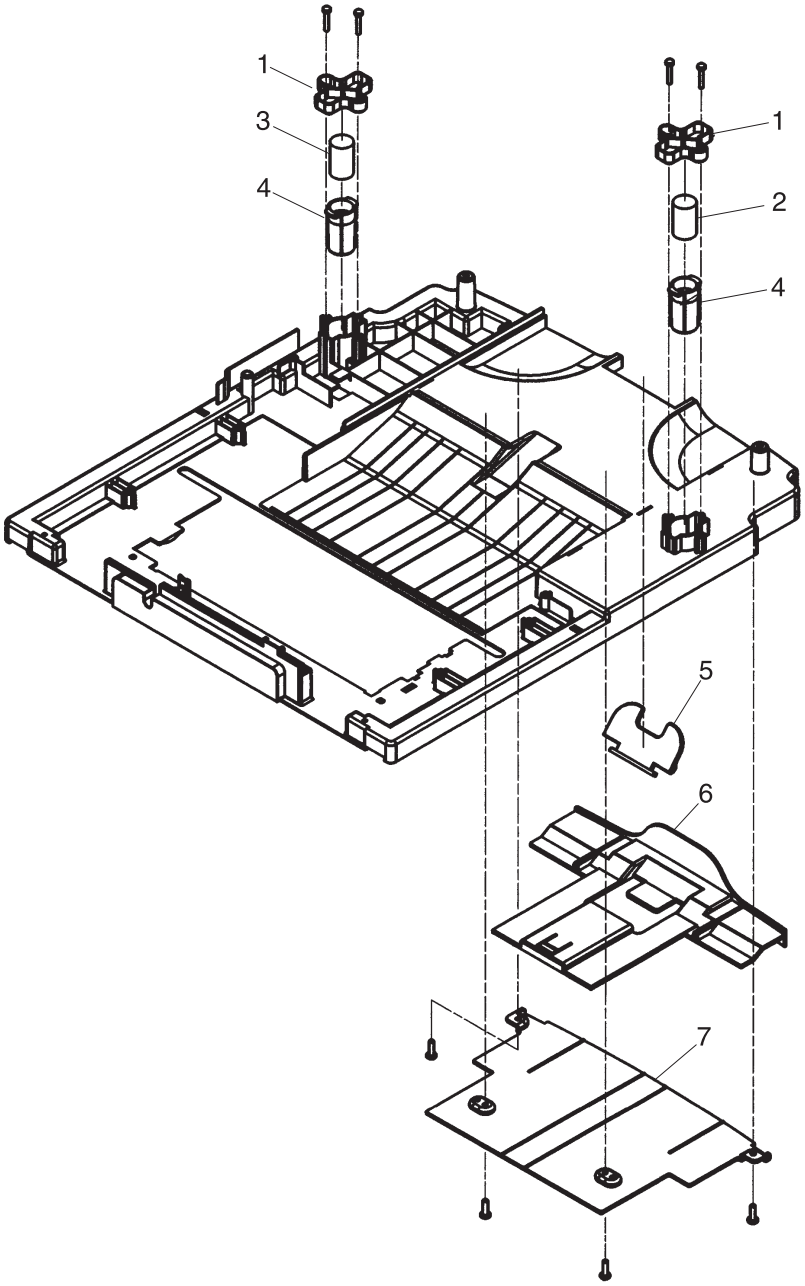


Table 7-8 ADF base assembly

Reference	Description	Part Number	Quantity
1	Damper base cover	PF2284P091NI	2
2	Left damper spring	PF2284P375NI	2
3	Right damper spring	PF2284P376NI	1
4	Damper cover	PF2284P090NI	2
5	Output bin paper lever	PF2284P089NI	1
6	Output bin extender	PF2284P061NI	1
7	Output bin base cover	PF2284P060NI	1

Figure 7-8 Separation pad case

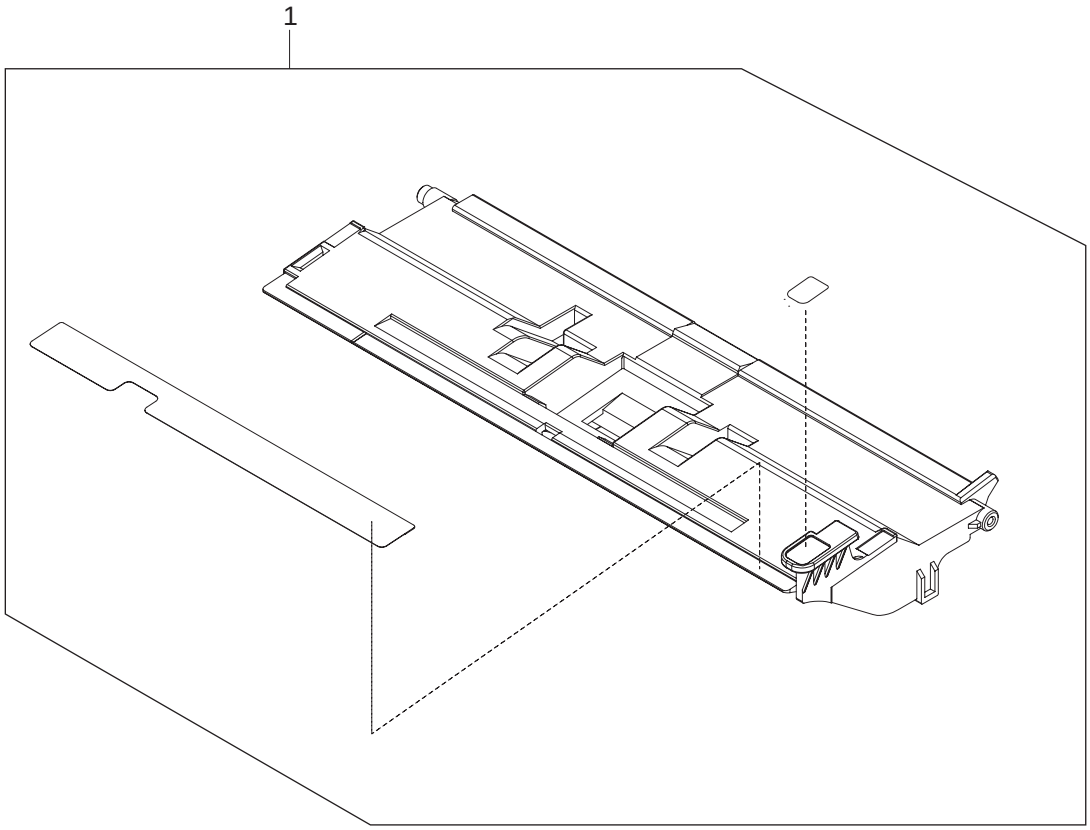


Table 7-9 Separation pad case

Reference	Description	Part Number	Quantity
1	Separation pad case	PF2282K034NI	1

Figure 7-9 Pickup roller assembly

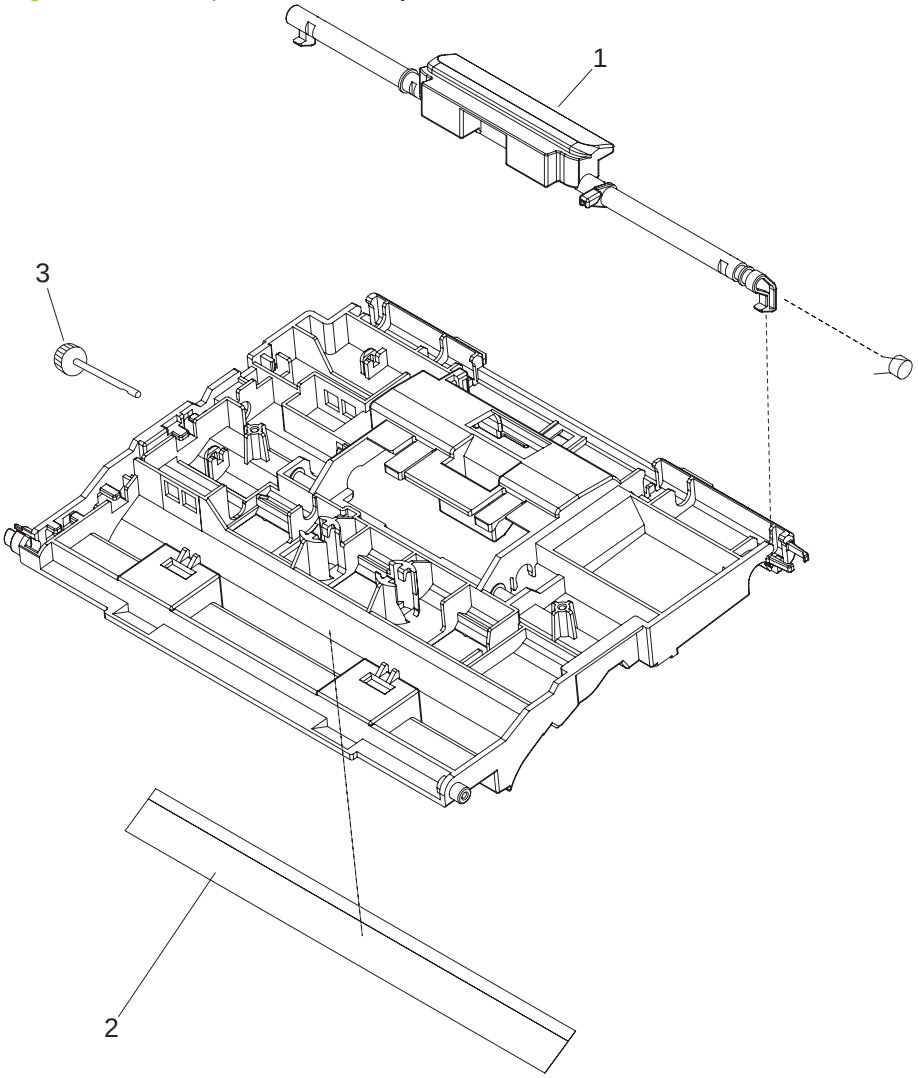


Table 7-10 Pickup roller assembly

Reference	Description	Part Number	Quantity
1	ADF jam access latch	PF2284K151NI	1
2	Clear plastic paper guide	PF2284K152NI	1
3	ADF pickup gear	PF2282P039NI	1

Figure 7-10 Control-panel cover assembly

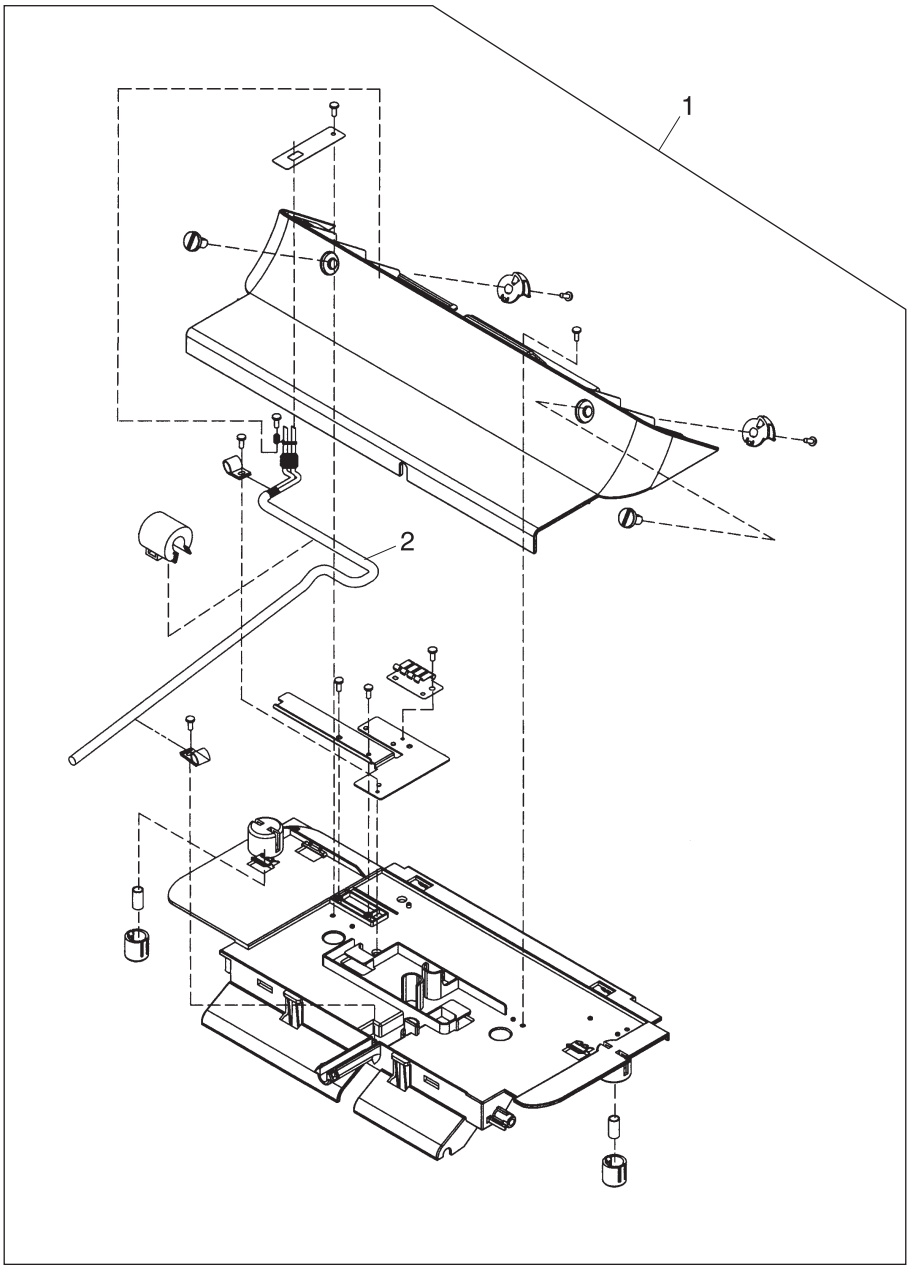


Table 7-11 Control-panel cover assembly

Reference	Description	Part Number	Quantity
1	Control-panel cover assembly	PF2284K015NI	1
2	External control-panel cable	IR4044K537NI	1

Figure 7-11 Control-panel assembly

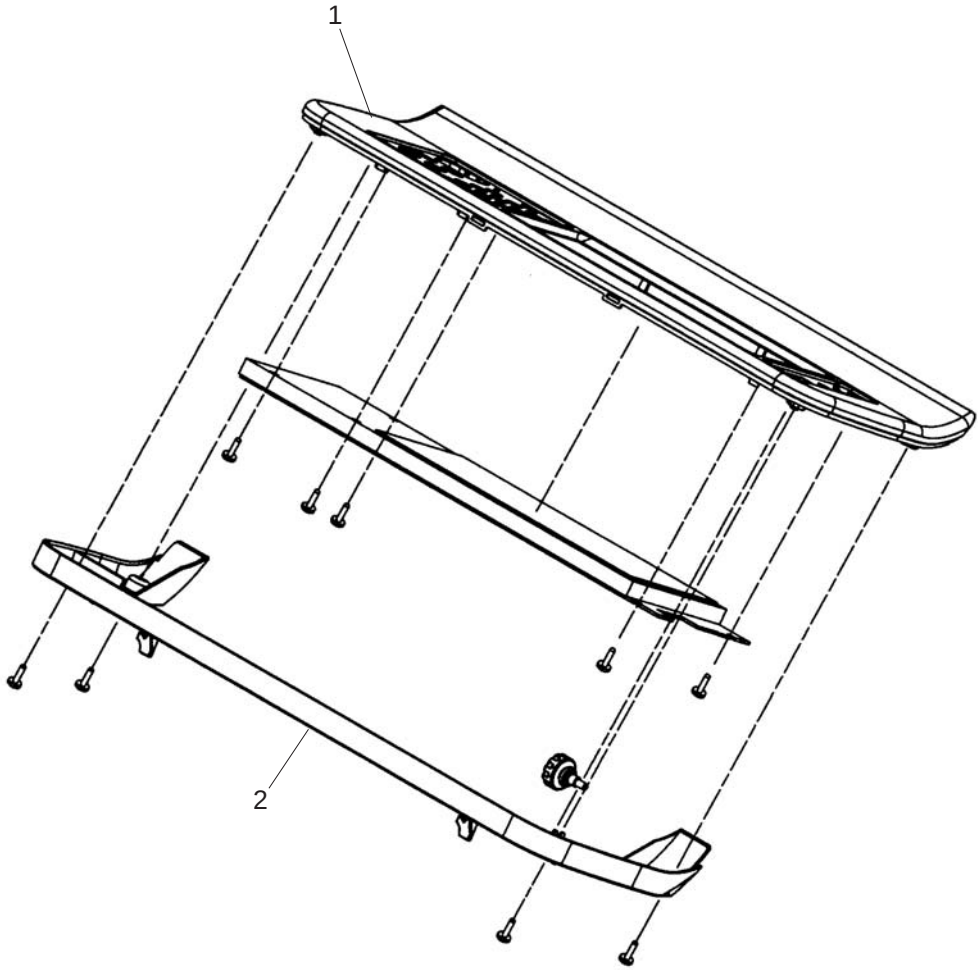


Table 7-12 Control-panel assembly

Reference	Description	Part Number	Quantity
1	Control-panel upper cover	PF2284P072NI	1
2	Control-panel lower cover	PF2284P073NI	1

Figure 7-12 ADF left cover

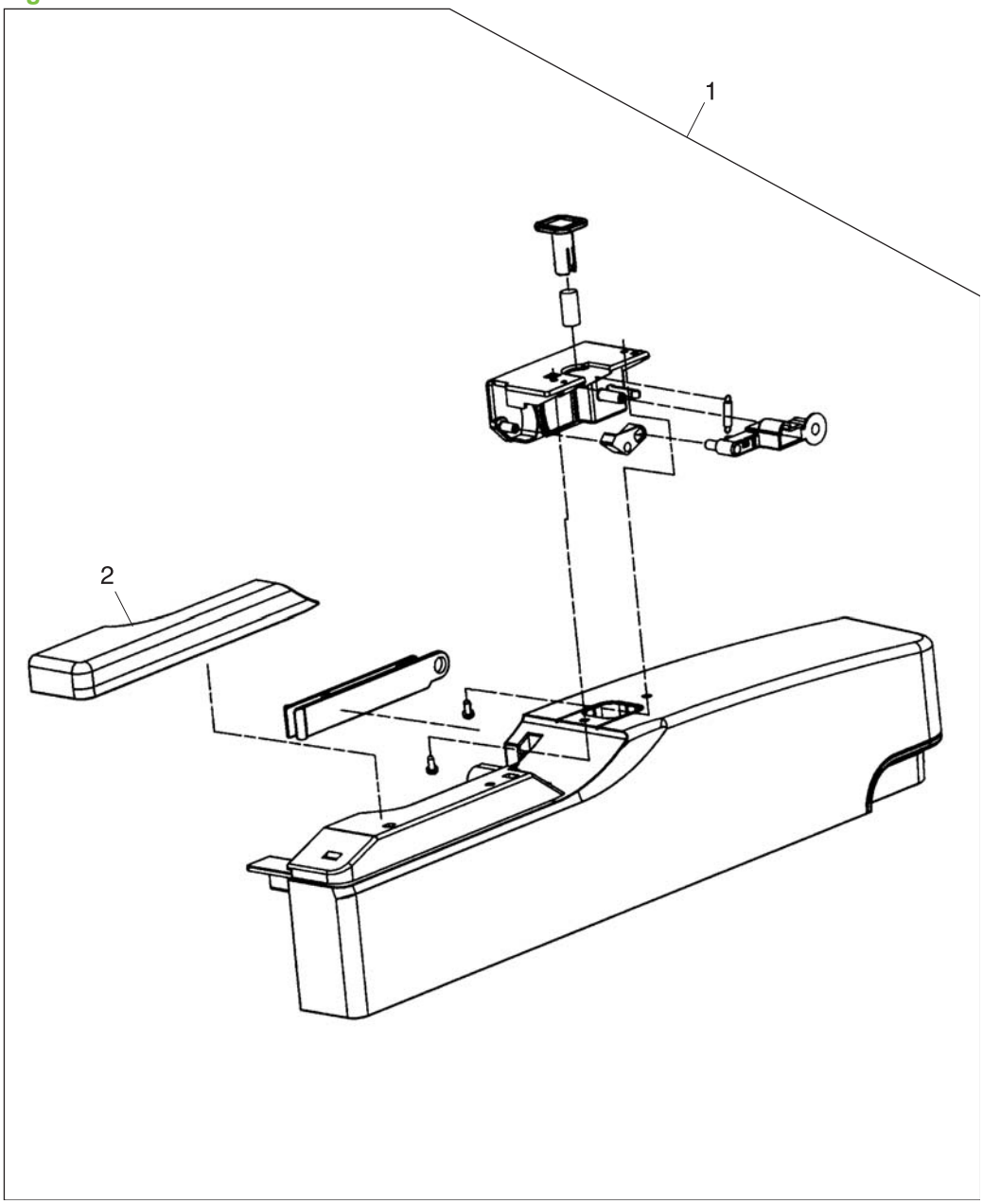


Table 7-13 ADF left cover

Reference	Description	Part Number	Quantity
1	ADF left cover	PF2284K012NI	1
2	ADF left-corner cover	PF2284P080NI	1

Figure 7-13 ADF input tray assembly

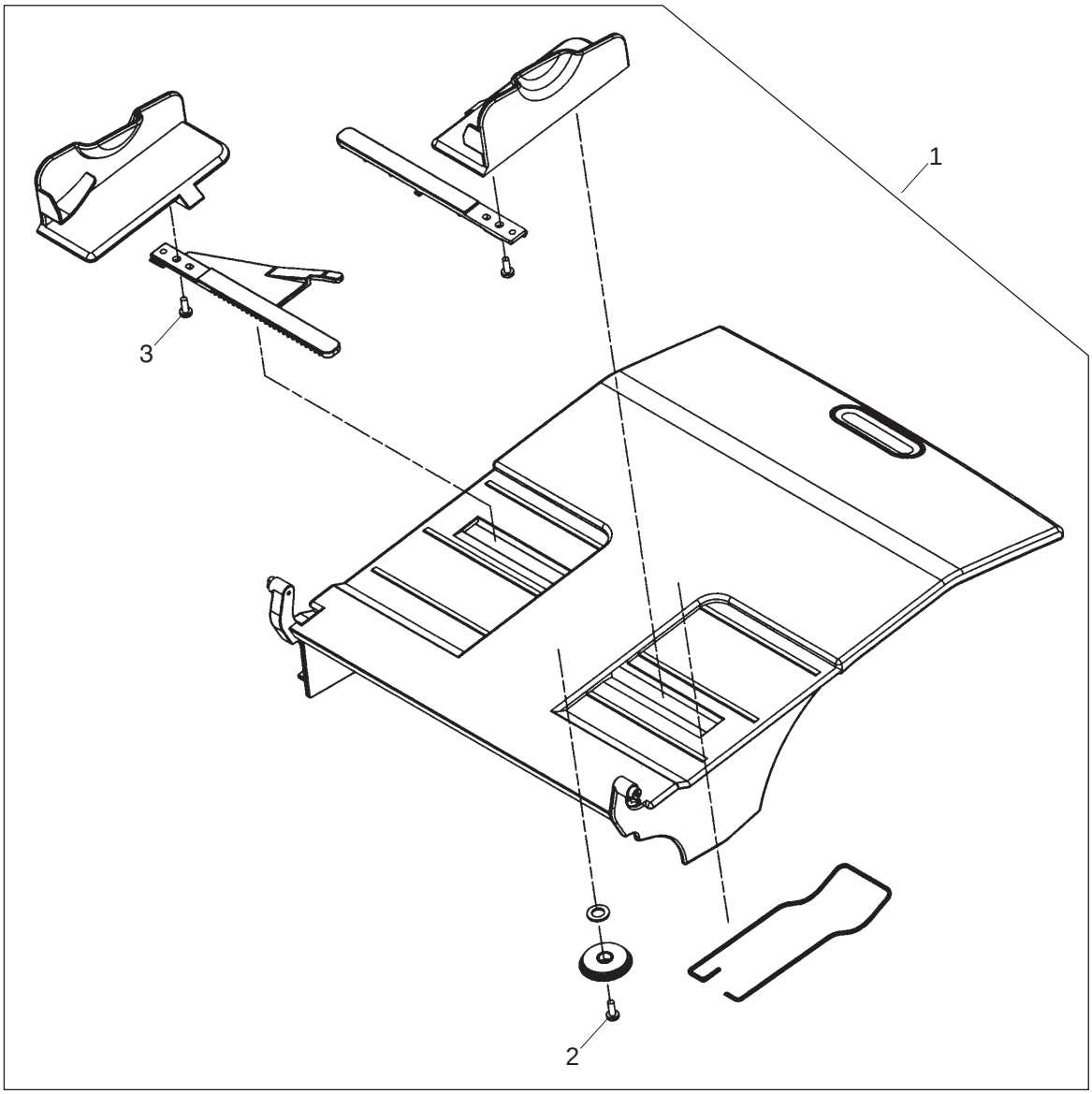


Table 7-14 ADF input tray assembly

Reference	Description	Part Number	Quantity
1	Paper input tray, ADF	PF2284K042NI	1
2	Screw, BTN, M3x8	IR4041P021NI	1
3	Screw, wave 3x8	030080FNBBNI	2

Scanner and bottom assemblies

Figure 7-14 Scanner assembly

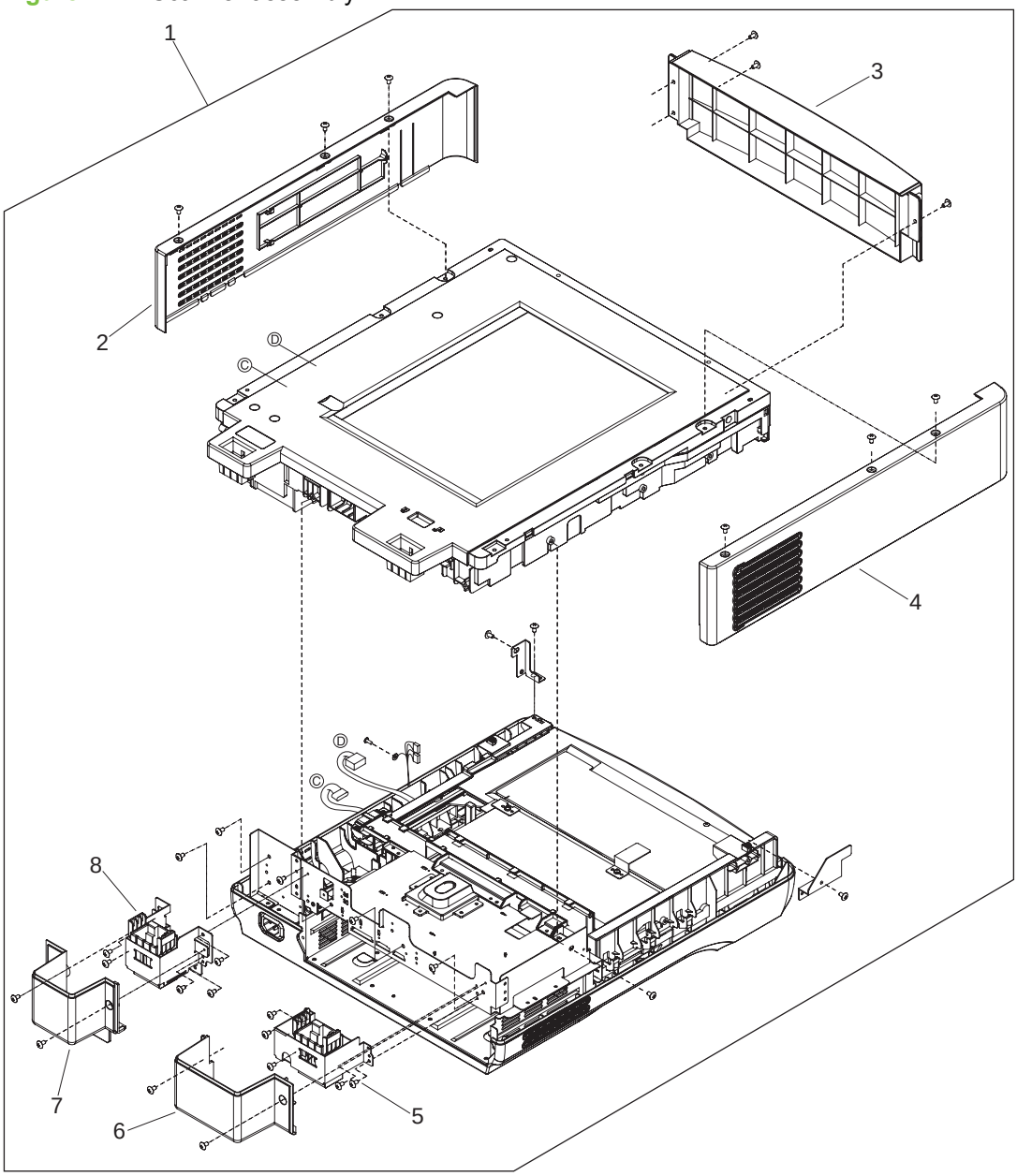


Table 7-15 Scanner assembly

Reference	Description	Part Number	Quantity
1	Scanner assembly	IR4044K257NI	1
2	Scanner right cover	IR4044P313NI	1
3	Scanner front cover	IR4044351NI	1
4	Scanner left cover	IR4044P312NI	1
5	Left hinge guide	IR4044P318NI	1
6	Left hinge cover	IR4044P325NI	1
7	Right hinge cover	IR4044P326NI	1
8	Right hinge guide	IR4044P319NI	1

Figure 7-15 Bottom unit assembly

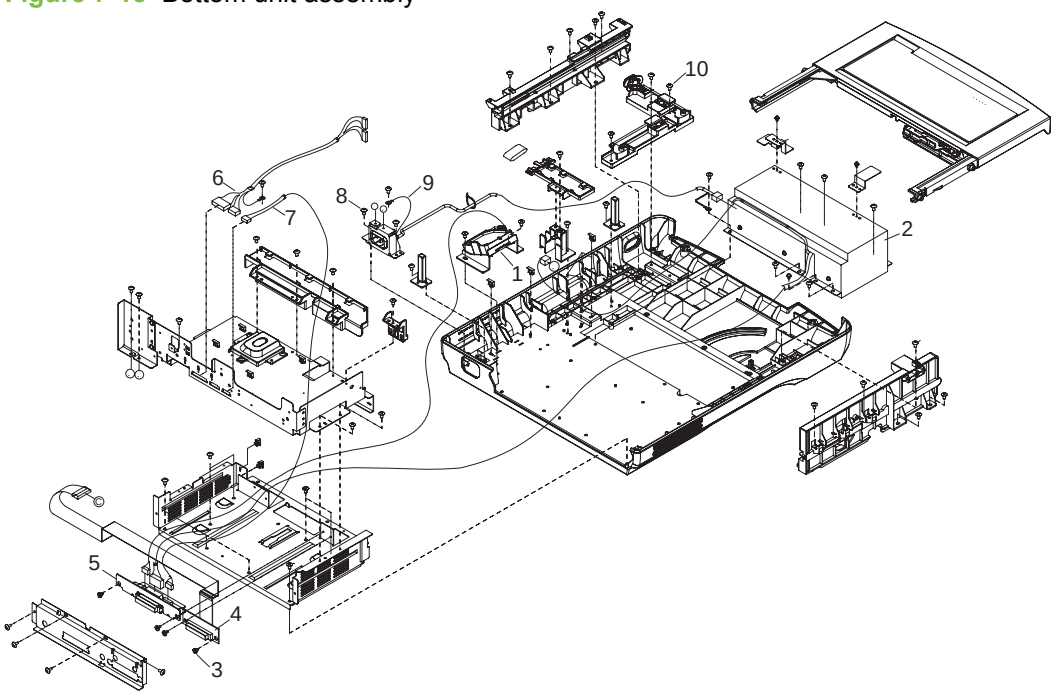


Table 7-16 Bottom unit assembly

Reference	Description	Part Number	Quantity
1	Formatter fan	IR4044P550NI	2
2	Power supply	IR4044P525NI	1
3	Screw, DANBISU	IR4044P200NI	4
4	Formatter flat-ribbon connector	IR4044K560NI	1
5	Intermediate PCA and connector	IR4044K255NI	1
6	SCB cable	IR4044K538NI	1
7	Internal control-panel cable	IR4044K537NI	1
8	Screw M3x8	IR4041P021NI	64
9	Screw, 4x6	040060FNWSNI	1
10	Power-switch assembly	IR4044K107NI	1

Figure 7-16 Power plug

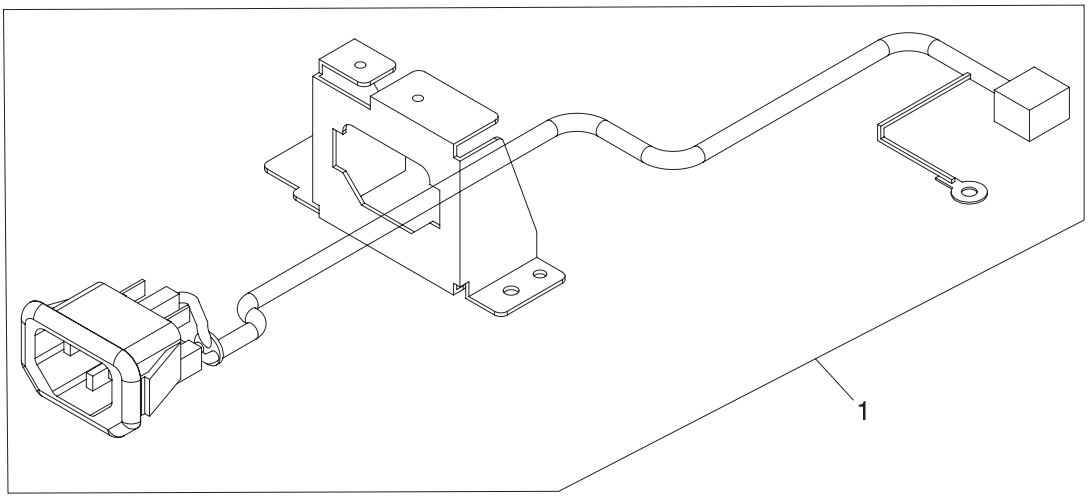


Table 7-17 Power plug

Reference	Description	Part Number	Quantity
1	AC power plug	IR4044K535NI	

Figure 7-17 Top formatter

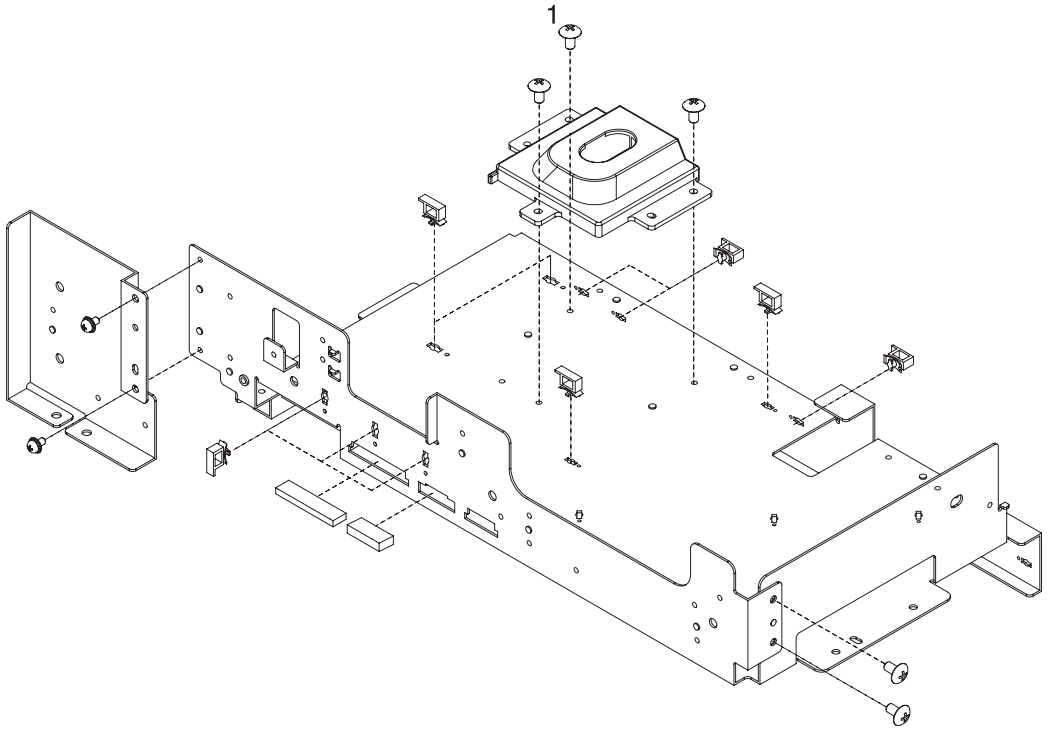


Table 7-18 Top formatter

Reference	Description	Part Number	Quantity
1	Screw, 3x6	030060FNWSNI	13

Figure 7-18 Fan assembly

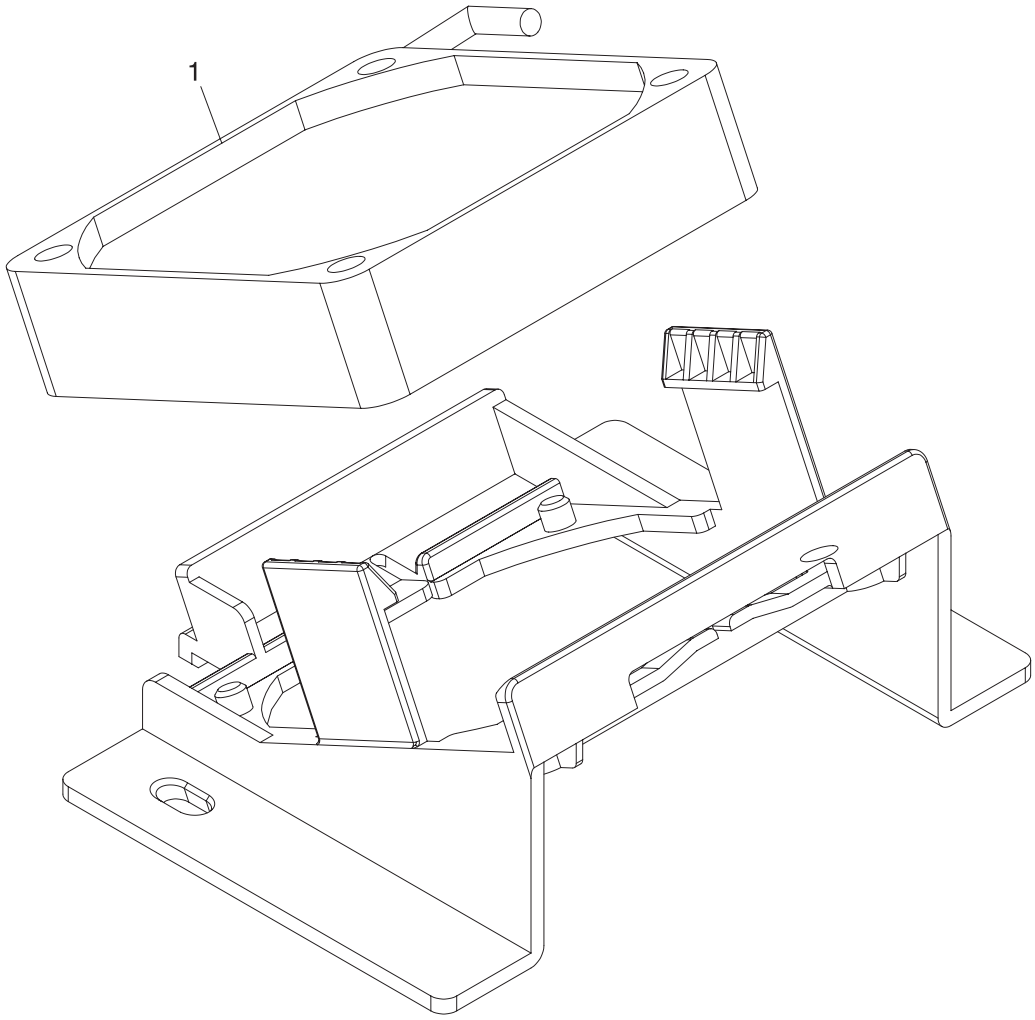


Table 7-19 Fan assembly

Reference	Description	Part Number	Quantity
1	Scanner base fan	IR4044P524NI	1

Figure 7-19 Keyboard assembly

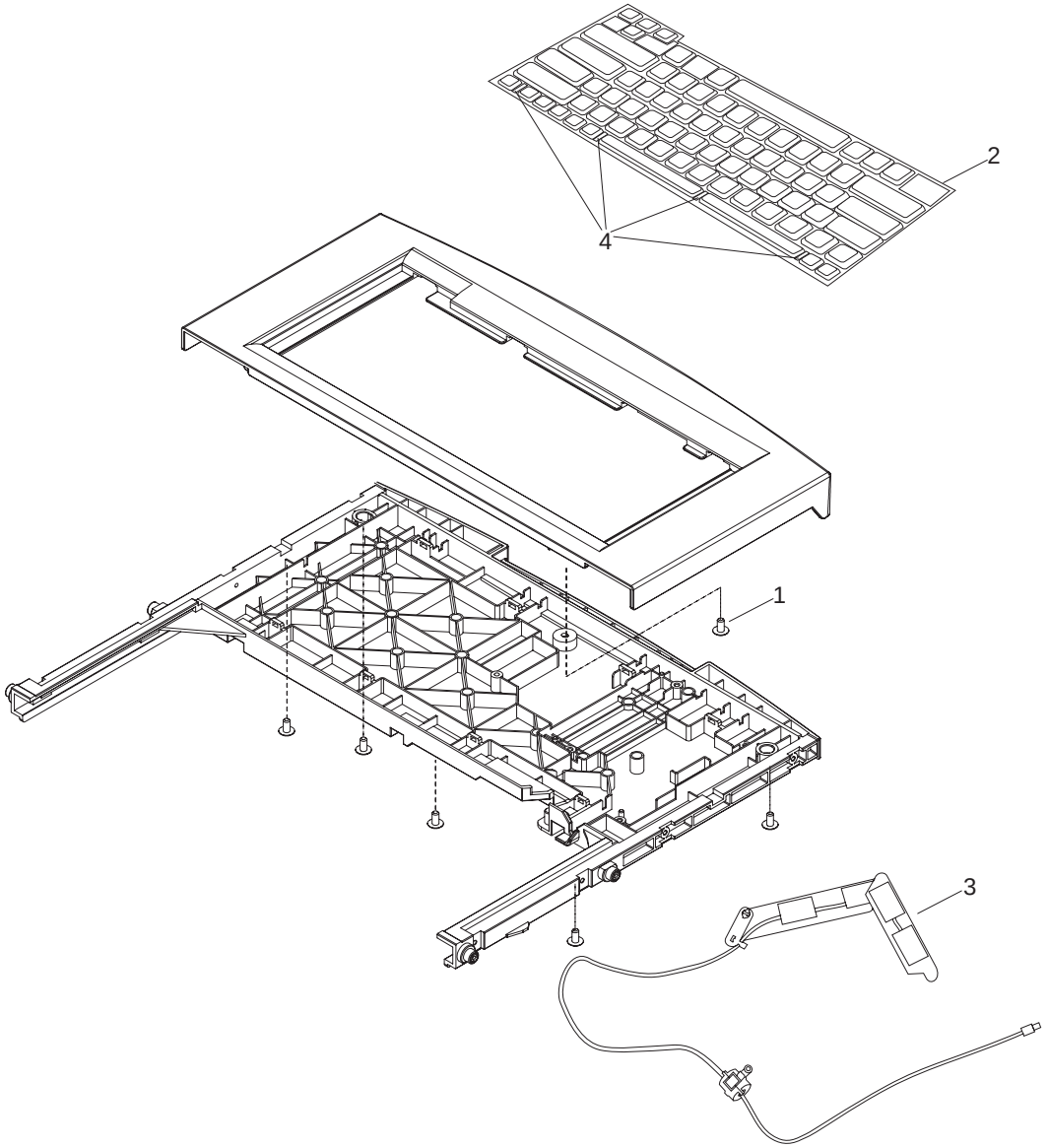


Table 7-20 Keyboard assembly

Reference	Description	Part Number	Quantity
1	Screw, wave 3x10	NS-SCR-00027NI	6
2	Keyboard—U.S. English	CB472-60160	1
2	Keyboard—Hungarian	CB472-60161	1
2	Keyboard—German	CB472-60162	1
2	Keyboard—French	CB472-60163	1
2	Keyboard—Italian	CB472-60164	1
2	Keyboard—Spanish	CB472-60165	1
2	Keyboard—Danish	CB472-60166	1
2	Keyboard—Norwegian	CB472-60167	1
2	Keyboard—Swedish and Finnish	CB472-60168	1
2	Keyboard—Polish	CB472-60169	1
2	Keyboard—Czech	CB472-60170	1
2	Keyboard—Dutch	CB472-60171	1
2	Keyboard—Turkish	CB472-60172	1
2	Keyboard—Russian	CB472-60173	1
2	Keyboard—Portuguese	CB472-60174	1
2	Keyboard—U.K. English	CB472-60175	1
3	Keyboard cable (includes arm assembly)	IR4044K289NI	1
4	Keyboard clip	CB472-40052	4

Figure 7-20 Lower cover assembly

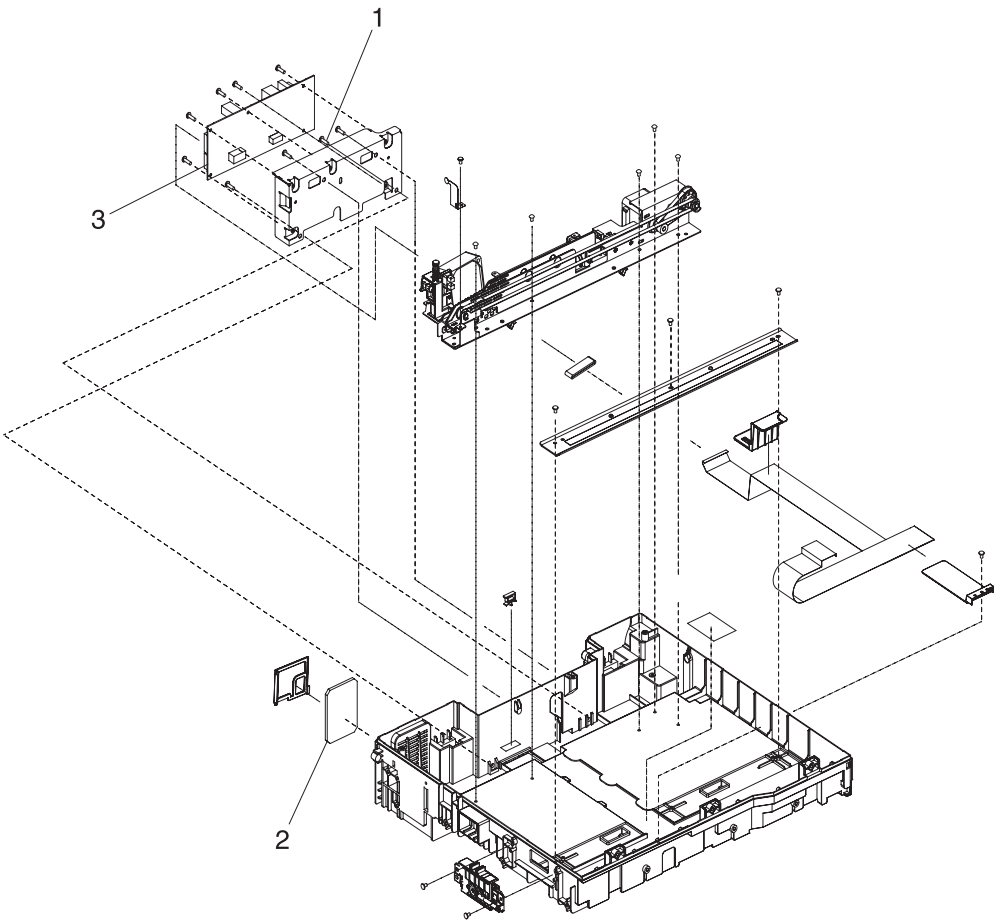


Table 7-21 Lower cover assembly

Reference	Description	Part Number	Quantity
1	Screw, M3x12	030120FNWSNI	3
2	Fan filter	IR4041P007NI	1
3	Scanner control board	IR4044K275NI	1

Figure 7-21 Scanner rear cover

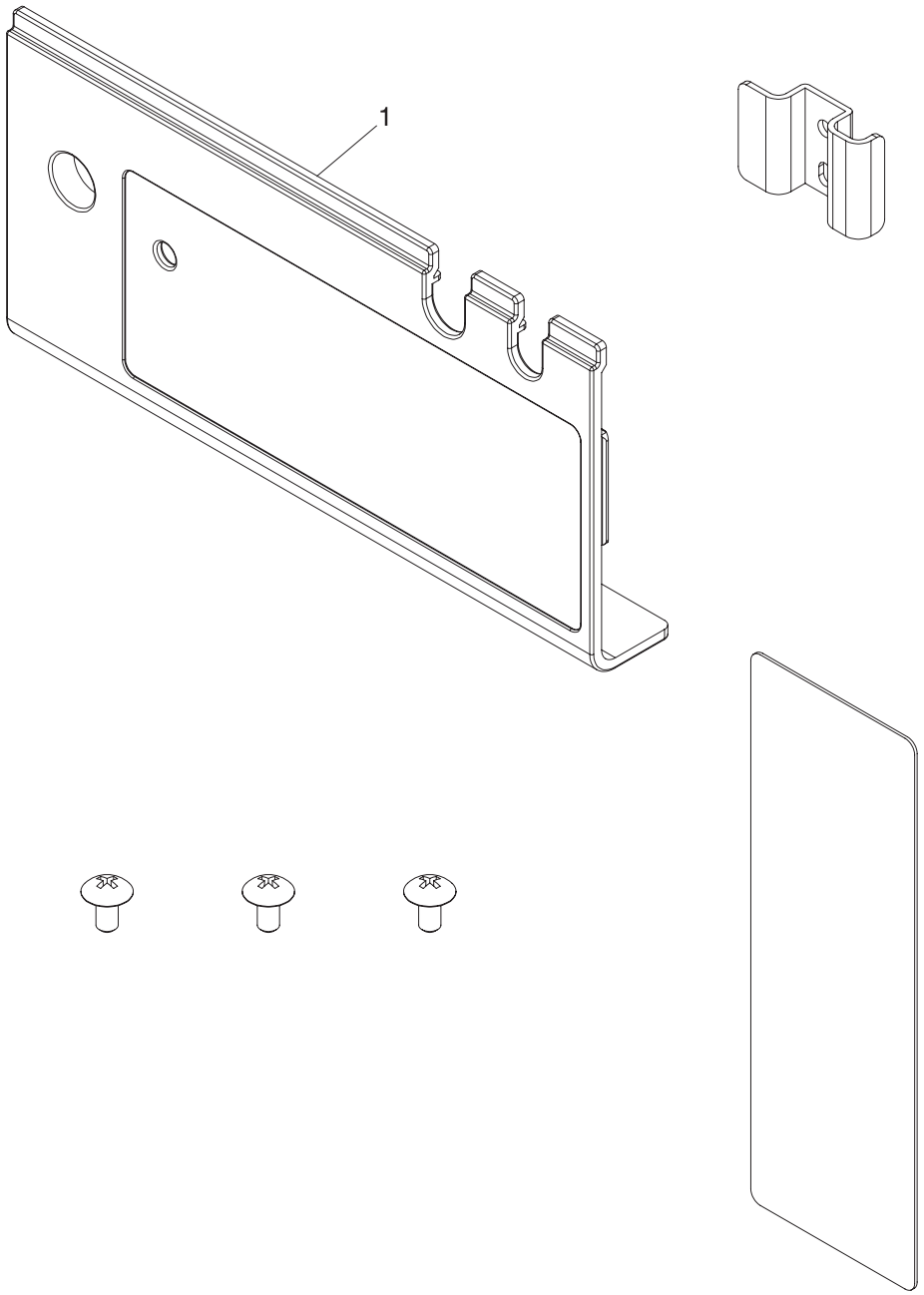


Table 7-22 Scanner rear cover

Reference	Description	Part Number	Quantity
1	Scanner rear cover	IR4044P314NI	1

Alphabetical parts list

Table 7-23 Alphabetical parts list

Description	Part number	Table and page
AC power plug	IR4044K535NI	Power plug on page 189
ADF assembly	PF2284-SVPNI	ADF Assembly on page 169
ADF cable	PF2284K500NI	ADF Assembly on page 169
ADF jam access latch	PF2284K151NI	Pickup roller assembly on page 175
ADF left cover	PF2284K012NI	ADF left cover on page 181
ADF left-corner cover	PF2284P080NI	ADF left cover on page 181
ADF maintenance kit	Q5997–67901	Maintenance kits on page 165
ADF pickup gear	PF2282P039NI	Pickup roller assembly on page 175
ADF rear cover	PF2284P086NI	ADF Assembly on page 169
ADF right cover	PF2284P044NI	ADF Assembly on page 169
ADF right cover corner	PF2284P079NI	ADF Assembly on page 169
Clear plastic paper guide	PF2284K152NI	Pickup roller assembly on page 175
Control-panel assembly	CB472-67905	Control-panel overlays on page 163
Control-panel cover assembly	PF2284K015NI	Control-panel cover assembly on page 177
Control-panel lower cover	PF2284P073NI	Control-panel assembly on page 179
Control-panel overlay—AR (Arabic)	CB472-60127	Control-panel overlays on page 163
Control-panel overlay—CS (Czech)	CB472-60118	Control-panel overlays on page 163
Control-panel overlay—DA (Danish)	CB472-60115	Control-panel overlays on page 163
Control-panel overlay—DE (German)	CB472-60108	Control-panel overlays on page 163
Control-panel overlay—EL (Greek)	CB472-60126	Control-panel overlays on page 163
Control-panel overlay—EN (English)	CB472-60105	Control-panel overlays on page 163
Control-panel overlay—ES (Spanish)	CB472-60109	Control-panel overlays on page 163
Control-panel overlay—FI (Finnish)	CB472-60114	Control-panel overlays on page 163
Control-panel overlay—FR (French)	CB472-60106	Control-panel overlays on page 163

Table 7-23 Alphabetical parts list (continued)

Description	Part number	Table and page
Control-panel overlay—HE (Hebrew)	CB472-60125	Control-panel overlays on page 163
Control-panel overlay—HU (Hungarian)	CB472-60119	Control-panel overlays on page 163
Control-panel overlay—IT (Italian)	CB472-60107	Control-panel overlays on page 163
Control-panel overlay—JA (Japanese)	CB472-60123	Control-panel overlays on page 163
Control-panel overlay—KO (Korean)	CB472-60122	Control-panel overlays on page 163
Control-panel overlay—NL (Dutch)	CB472-60110	Control-panel overlays on page 163
Control-panel overlay—NO (Norwegian)	CB472-60112	Control-panel overlays on page 163
Control-panel overlay—PL (Polish)	CB472-60116	Control-panel overlays on page 163
Control-panel overlay—PT (Portuguese)	CB472-60111	Control-panel overlays on page 163
Control-panel overlay—RU (Russian)	CB472-60117	Control-panel overlays on page 163
Control-panel overlay—SV (Swedish)	CB472-60113	Control-panel overlays on page 163
Control-panel overlay—TH (Thai)	CB472-60128	Control-panel overlays on page 163
Control-panel overlay—TR (Turkish)	CB472-60124	Control-panel overlays on page 163
Control-panel overlay—ZHCN (Simplified Chinese)	CB472-60121	Control-panel overlays on page 163
Control-panel overlay—ZHTW (Traditional Chinese)	CB472-60120	Control-panel overlays on page 163
Control-panel upper cover	PF2284P072NI	Control-panel assembly on page 179
Damper base cover	PF2284P091NI	ADF base assembly on page 171
Damper cover	PF2284P090NI	ADF base assembly on page 171
Data cable for hard-disk drive	5851-2502	Memory on page 167
DIMM-128 MB DDR 100-pin SDRAM	Q7718A	Memory on page 167
DIMM-256 MB DDR 100-pin SDRAM	Q7719A	Memory on page 167
DIMM-32 MB DDR 100-pin SDRAM	Q7713A	Memory on page 167
DIMM-64 MB DDR 100-pin SDRAM	Q7715A	Memory on page 167
External control-panel cable	IR4044K537NI	Control-panel cover assembly on page 177

Table 7-23 Alphabetical parts list (continued)

Description	Part number	Table and page
Fan filter	IR4041P007NI	Lower cover assembly on page 197
Formatter assembly	CB472-67906	Customer-replaceable components on page 161
Formatter fan	IR4044P550NI	Bottom unit assembly on page 187
Formatter flat-ribbon connector	IR4044K560NI	Bottom unit assembly on page 187
Hard-disk drive, 40 MB or larger	CB472-67902	Memory on page 167
Hinge flaps	PF2284K153NI	Customer-replaceable components on page 161
HP Digital Sender Software (Version 4.9) CD	T1936-14008	Related documentation and software on page 159
HP 9250c Digital Sender Service Manual	CB472-90938	Related documentation and software on page 159
Intermediate PCA and connector	IR4044K255NI	Bottom unit assembly on page 187
Internal control-panel cable	IR4044K537NI	Bottom unit assembly on page 187
Keyboard cable (includes arm assembly)	IR4044K289NI	Keyboard assembly on page 195
Keyboard clip	CB472-40052	Keyboard assembly on page 195
Keyboard—Czech	CB472-60170	Keyboard assembly on page 195
Keyboard—Danish	CB472-60166	Keyboard assembly on page 195
Keyboard—Dutch	CB472-60171	Keyboard assembly on page 195
Keyboard—French	CB472-60163	Keyboard assembly on page 195
Keyboard—German	CB472-60162	Keyboard assembly on page 195
Keyboard—Hungarian	CB472-60161	Keyboard assembly on page 195
Keyboard—Italian	CB472-60164	Keyboard assembly on page 195
Keyboard—Norwegian	CB472-60167	Keyboard assembly on page 195
Keyboard—Polish	CB472-60169	Keyboard assembly on page 195
Keyboard—Portuguese	CB472-60174	Keyboard assembly on page 195

Table 7-23 Alphabetical parts list (continued)

Description	Part number	Table and page
Keyboard—Russian	CB472-60173	Keyboard assembly on page 195
Keyboard—Spanish	CB472-60165	Keyboard assembly on page 195
Keyboard—Swedish and Finnish	CB472-60168	Keyboard assembly on page 195
Keyboard—Turkish	CB472-60172	Keyboard assembly on page 195
Keyboard—U.K. English	CB472-60175	Keyboard assembly on page 195
Keyboard—U.S. English	CB472-60160	Keyboard assembly on page 195
Left damper spring	PF2284P375NI	ADF base assembly on page 171
Left hinge cover	IR4044P325NI	Scanner assembly on page 185
Left hinge guide	IR4044P318NI	Scanner assembly on page 185
Mylar holder assembly	PF2282K043NI	Customer-replaceable components on page 161
Mylar replacement kit (3 mylar sheets)	Q6496–67901	Maintenance kits on page 165
Output bin base cover	PF2284P060NI	ADF base assembly on page 171
Output bin extender	PF2284P061NI	ADF base assembly on page 171
Output bin paper lever	PF2284P089NI	ADF base assembly on page 171
Paper input tray, ADF	PF2284K042NI	Customer-replaceable components on page 161
Paper input tray, ADF	PF2284K042NI	ADF input tray assembly on page 183
Pickup roller assembly	PF2282K039NI	Customer-replaceable components on page 161
Pickup roller cover	PF2282K040NI	Customer-replaceable components on page 161
Power cable for hard-disk drive	5851-3051	Memory on page 167
Power cord for China	8121-0943	Customer-replaceable components on page 161
Power cord for Denmark	8121-0733	Customer-replaceable components on page 161
Power cord for Europe (generic)	8121-0731	Customer-replaceable components on page 161
Power cord for Israel	8121-1004	Customer-replaceable components on page 161

Table 7-23 Alphabetical parts list (continued)

Description	Part number	Table and page
Power cord for Japan	8121-0736	Customer-replaceable components on page 161
Power cord for North America	8121-0740	Customer-replaceable components on page 161
Power cord for South Africa	8121-0737	Customer-replaceable components on page 161
Power cord for Switzerland	8121-0738	Customer-replaceable components on page 161
Power cord for Taiwan	8121-0964	Customer-replaceable components on page 161
Power cord for the United Kingdom, Singapore, Hong Kong, and Malaysia	8121-0739	Customer-replaceable components on page 161
Power supply	IR4044P525NI	Bottom unit assembly on page 187
Power-switch assembly	IR4044K107NI	Bottom unit assembly on page 187
Right damper spring	PF2284P376NI	ADF base assembly on page 171
Right hinge cover	IR4044P326NI	Scanner assembly on page 185
Right hinge guide	IR4044P319NI	Scanner assembly on page 185
Scanner assembly	IR4044K257NI	Scanner assembly on page 185
Scanner base fan	IR4044P524NI	Fan assembly on page 193
Scanner control board	IR4044K275NI	Lower cover assembly on page 197
Scanner front cover	IR4044351NI	Scanner assembly on page 185
Scanner left cover	IR4044P312NI	Scanner assembly on page 185
Scanner rear cover	IR4044P314NI	Scanner rear cover on page 199
Scanner right cover	IR4044P313NI	Scanner assembly on page 185
SCB cable	IR4044K538NI	Bottom unit assembly on page 187
Screw M3x8	IR4041P021NI	Bottom unit assembly on page 187
Screw, 3x6	030060FNWSNI	Top formatter on page 191
Screw, 4x6	040060FNWSNI	Bottom unit assembly on page 187
Screw, ADF	030080FWWSNI	ADF Assembly on page 169

Table 7-23 Alphabetical parts list (continued)

Description	Part number	Table and page
Screw, ADF, 03T060SR-W	NS-SCR00016NI	ADF Assembly on page 169
Screw, ADF, 3x6 w/washer	030060FWWSNI	ADF Assembly on page 169
Screw, ADF, wave 3x10	NS-SCR-00027NI	ADF Assembly on page 169
Screw, ADF, wave 4x10	NS-SCR-00056NI	ADF Assembly on page 169
Screw, BTN, M3x8	IR4041P021NI	ADF input tray assembly on page 183
Screw, DANBISU	IR4044P200NI	Bottom unit assembly on page 187
Screw, M3x12	030120FNWSNI	Lower cover assembly on page 197
Screw, wave 3x10	NS-SCR-00027NI	Keyboard assembly on page 195
Screw, wave 3x8	030080FNBBNI	ADF input tray assembly on page 183
Separation pad	PF2282K035NI	Customer-replaceable components on page 161
Separation pad case	PF2282K034NI	Separation pad case on page 173
Service and Support CD	CB472-60158	Related documentation and software on page 159
Upper hinge cover	PF2284P088NI	ADF Assembly on page 169
User Guide CD	CB472-60141	Related documentation and software on page 159
White mylar backing	PF2282P025NI	ADF Assembly on page 169
White mylar backing springs	PF2282P343NI	ADF Assembly on page 169
White scan background	PF2282P339NI	ADF Assembly on page 169

Numerical parts list

Table 7-24 Numerical parts list

Part number	Description	Table and page
030060FNWSNI	Screw, 3x6	Top formatter on page 191
030060FWWSNI	Screw, ADF, 3x6 w/washer	ADF Assembly on page 169
030080FNBBNI	Screw, wave 3x8	ADF input tray assembly on page 183
030080FWWSNI	Screw, ADF	ADF Assembly on page 169
030120FNWSNI	Screw, M3x12	Lower cover assembly on page 197
040060FNWSNI	Screw, 4x6	Bottom unit assembly on page 187
5851-2502	Data cable for hard-disk drive	Memory on page 167
5851-3051	Power cable for hard-disk drive	Memory on page 167
8121-0731	Power cord for Europe (generic)	Customer-replaceable components on page 161
8121-0733	Power cord for Denmark	Customer-replaceable components on page 161
8121-0736	Power cord for Japan	Customer-replaceable components on page 161
8121-0737	Power cord for South Africa	Customer-replaceable components on page 161
8121-0738	Power cord for Switzerland	Customer-replaceable components on page 161
8121-0739	Power cord for the United Kingdom, Singapore, Hong Kong, and Malaysia	Customer-replaceable components on page 161
8121-0740	Power cord for North America	Customer-replaceable components on page 161
8121-0943	Power cord for China	Customer-replaceable components on page 161
8121-0964	Power cord for Taiwan	Customer-replaceable components on page 161
8121-1004	Power cord for Israel	Customer-replaceable components on page 161
CB472-40052	Keyboard clip	Keyboard assembly on page 195
CB472-60105	Control-panel overlay—EN (English)	Control-panel overlays on page 163
CB472-60106	Control-panel overlay—FR (French)	Control-panel overlays on page 163
CB472-60107	Control-panel overlay—IT (Italian)	Control-panel overlays on page 163

Table 7-24 Numerical parts list (continued)

Part number	Description	Table and page
CB472-60108	Control-panel overlay—DE (German)	Control-panel overlays on page 163
CB472-60109	Control-panel overlay—ES (Spanish)	Control-panel overlays on page 163
CB472-60110	Control-panel overlay—NL (Dutch)	Control-panel overlays on page 163
CB472-60111	Control-panel overlay—PT (Portuguese)	Control-panel overlays on page 163
CB472-60112	Control-panel overlay—NO (Norwegian)	Control-panel overlays on page 163
CB472-60113	Control-panel overlay—SV (Swedish)	Control-panel overlays on page 163
CB472-60114	Control-panel overlay—FI (Finnish)	Control-panel overlays on page 163
CB472-60115	Control-panel overlay—DA (Danish)	Control-panel overlays on page 163
CB472-60116	Control-panel overlay—PL (Polish)	Control-panel overlays on page 163
CB472-60117	Control-panel overlay—RU (Russian)	Control-panel overlays on page 163
CB472-60118	Control-panel overlay—CS (Czech)	Control-panel overlays on page 163
CB472-60119	Control-panel overlay—HU (Hungarian)	Control-panel overlays on page 163
CB472-60120	Control-panel overlay—ZHTW (Traditional Chinese)	Control-panel overlays on page 163
CB472-60121	Control-panel overlay—ZHCN (Simplified Chinese)	Control-panel overlays on page 163
CB472-60122	Control-panel overlay—KO (Korean)	Control-panel overlays on page 163
CB472-60123	Control-panel overlay—JA (Japanese)	Control-panel overlays on page 163
CB472-60124	Control-panel overlay—TR (Turkish)	Control-panel overlays on page 163
CB472-60125	Control-panel overlay—HE (Hebrew)	Control-panel overlays on page 163
CB472-60126	Control-panel overlay—EL (Greek)	Control-panel overlays on page 163
CB472-60127	Control-panel overlay—AR (Arabic)	Control-panel overlays on page 163
CB472-60128	Control-panel overlay—TH (Thai)	Control-panel overlays on page 163
CB472-60141	User Guide CD	Related documentation and software on page 159

Table 7-24 Numerical parts list (continued)

Part number	Description	Table and page
CB472-60158	Service and Support CD	Related documentation and software on page 159
CB472-60160	Keyboard—U.S. English	Keyboard assembly on page 195
CB472-60161	Keyboard—Hungarian	Keyboard assembly on page 195
CB472-60162	Keyboard—German	Keyboard assembly on page 195
CB472-60163	Keyboard—French	Keyboard assembly on page 195
CB472-60164	Keyboard—Italian	Keyboard assembly on page 195
CB472-60165	Keyboard—Spanish	Keyboard assembly on page 195
CB472-60166	Keyboard—Danish	Keyboard assembly on page 195
CB472-60167	Keyboard—Norwegian	Keyboard assembly on page 195
CB472-60168	Keyboard—Swedish and Finnish	Keyboard assembly on page 195
CB472-60169	Keyboard—Polish	Keyboard assembly on page 195
CB472-60170	Keyboard—Czech	Keyboard assembly on page 195
CB472-60171	Keyboard—Dutch	Keyboard assembly on page 195
CB472-60172	Keyboard—Turkish	Keyboard assembly on page 195
CB472-60173	Keyboard—Russian	Keyboard assembly on page 195
CB472-60174	Keyboard—Portuguese	Keyboard assembly on page 195
CB472-60175	Keyboard—U.K. English	Keyboard assembly on page 195
CB472-67902	Hard-disk drive, 40 MB or larger	Memory on page 167
CB472-67905	Control-panel assembly	Control-panel overlays on page 163
CB472-67906	Formatter assembly	Customer-replaceable components on page 161
CB472-90938	HP 9250c Digital Sender Service Manual	Related documentation and software on page 159
IR4041P007NI	Fan filter	Lower cover assembly on page 197

Table 7-24 Numerical parts list (continued)

Part number	Description	Table and page
IR4041P021NI	Screw, BTN, M3x8	ADF input tray assembly on page 183
IR4041P021NI	Screw M3x8	Bottom unit assembly on page 187
IR4044351NI	Scanner front cover	Scanner assembly on page 185
IR4044K107NI	Power-switch assembly	Bottom unit assembly on page 187
IR4044K255NI	Intermediate PCA and connector	Bottom unit assembly on page 187
IR4044K257NI	Scanner assembly	Scanner assembly on page 185
IR4044K275NI	Scanner control board	Lower cover assembly on page 197
IR4044K289NI	Keyboard cable (includes arm assembly)	Keyboard assembly on page 195
IR4044K535NI	AC power plug	Power plug on page 189
IR4044K537NI	External control-panel cable	Control-panel cover assembly on page 177
IR4044K537NI	Internal control-panel cable	Bottom unit assembly on page 187
IR4044K538NI	SCB cable	Bottom unit assembly on page 187
IR4044K560NI	Formatter flat-ribbon connector	Bottom unit assembly on page 187
IR4044P200NI	Screw, DANBISU	Bottom unit assembly on page 187
IR4044P312NI	Scanner left cover	Scanner assembly on page 185
IR4044P313NI	Scanner right cover	Scanner assembly on page 185
IR4044P314NI	Scanner rear cover	Scanner rear cover on page 199
IR4044P318NI	Left hinge guide	Scanner assembly on page 185
IR4044P319NI	Right hinge guide	Scanner assembly on page 185
IR4044P325NI	Left hinge cover	Scanner assembly on page 185
IR4044P326NI	Right hinge cover	Scanner assembly on page 185
IR4044P524NI	Scanner base fan	Fan assembly on page 193
IR4044P525NI	Power supply	Bottom unit assembly on page 187

Table 7-24 Numerical parts list (continued)

Part number	Description	Table and page
IR4044P550NI	Formatter fan	Bottom unit assembly on page 187
NS-SCR-00027NI	Screw, ADF, wave 3x10	ADF Assembly on page 169
NS-SCR-00027NI	Screw, wave 3x10	Keyboard assembly on page 195
NS-SCR-00056NI	Screw, ADF, wave 4x10	ADF Assembly on page 169
NS-SCR00016NI	Screw, ADF, 03T060SR-W	ADF Assembly on page 169
PF2282K034NI	Separation pad case	Separation pad case on page 173
PF2282K035NI	Separation pad	Customer-replaceable components on page 161
PF2282K039NI	Pickup roller assembly	Customer-replaceable components on page 161
PF2282K040NI	Pickup roller cover	Customer-replaceable components on page 161
PF2282K043NI	Mylar holder assembly	Customer-replaceable components on page 161
PF2282P025NI	White mylar backing	ADF Assembly on page 169
PF2282P039NI	ADF pickup gear	Pickup roller assembly on page 175
PF2282P339NI	White scan background	ADF Assembly on page 169
PF2282P343NI	White mylar backing springs	ADF Assembly on page 169
PF2284-SVPNI	ADF assembly	ADF Assembly on page 169
PF2284K012NI	ADF left cover	ADF left cover on page 181
PF2284K015NI	Control-panel cover assembly	Control-panel cover assembly on page 177
PF2284K042NI	Paper input tray, ADF	Customer-replaceable components on page 161
PF2284K042NI	Paper input tray, ADF	ADF input tray assembly on page 183
PF2284K151NI	ADF jam access latch	Pickup roller assembly on page 175
PF2284K152NI	Clear plastic paper guide	Pickup roller assembly on page 175
PF2284K153NI	Hinge flaps	Customer-replaceable components on page 161
PF2284K500NI	ADF cable	ADF Assembly on page 169
PF2284P044NI	ADF right cover	ADF Assembly on page 169
PF2284P060NI	Output bin base cover	ADF base assembly on page 171

Table 7-24 Numerical parts list (continued)

Part number	Description	Table and page
PF2284P061NI	Output bin extender	ADF base assembly on page 171
PF2284P072NI	Control-panel upper cover	Control-panel assembly on page 179
PF2284P073NI	Control-panel lower cover	Control-panel assembly on page 179
PF2284P079NI	ADF right cover corner	ADF Assembly on page 169
PF2284P080NI	ADF left-corner cover	ADF left cover on page 181
PF2284P086NI	ADF rear cover	ADF Assembly on page 169
PF2284P088NI	Upper hinge cover	ADF Assembly on page 169
PF2284P089NI	Output bin paper lever	ADF base assembly on page 171
PF2284P090NI	Damper cover	ADF base assembly on page 171
PF2284P091NI	Damper base cover	ADF base assembly on page 171
PF2284P375NI	Left damper spring	ADF base assembly on page 171
PF2284P376NI	Right damper spring	ADF base assembly on page 171
Q5997–67901	ADF maintenance kit	Maintenance kits on page 165
Q6496–67901	Mylar replacement kit (3 mylar sheets)	Maintenance kits on page 165
Q7713A	DIMM-32 MB DDR 100-pin SDRAM	Memory on page 167
Q7715A	DIMM-64 MB DDR 100-pin SDRAM	Memory on page 167
Q7718A	DIMM-128 MB DDR 100-pin SDRAM	Memory on page 167
Q7719A	DIMM-256 MB DDR 100-pin SDRAM	Memory on page 167
T1936-14008	HP Digital Sender Software (Version 4.9) CD	Related documentation and software on page 159

A Service and support

Hewlett-Packard limited warranty statement

HP PRODUCT	DURATION OF LIMITED WARRANTY
HP 9250C Digital Sender	One-year on-site warranty

HP warrants to you, the end-user customer, that HP hardware and accessories will be free from defects in materials and workmanship after the date of purchase, for the period specified above. If HP receives notice of such defects during the warranty period, HP will, at its option, either repair or replace products which prove to be defective. Replacement products may be either new or equivalent in performance to new.

HP warrants to you that HP software will not fail to execute its programming instructions after the date of purchase, for the period specified above, due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace software which does not execute its programming instructions due to such defects.

HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to repair or replace any product to a condition as warranted, you will be entitled to a refund of the purchase price upon prompt return of the product.

HP products may contain remanufactured parts equivalent to new in performance or may have been subject to incidental use.

Warranty does not apply to defects resulting from (a) improper or inadequate maintenance or calibration, (b) software, interfacing, parts or supplies not supplied by HP, (c) unauthorized modification or misuse, (d) operation outside of the published environmental specifications for the product, or (e) improper site preparation or maintenance.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE ABOVE WARRANTIES ARE EXCLUSIVE AND NO OTHER WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, IS EXPRESSED OR IMPLIED AND HP SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, SATISFACTORY QUALITY, AND FITNESS FOR A PARTICULAR PURPOSE. Some countries/regions, states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from country/region to country/region, state to state, or province to province. HP's limited warranty is valid in any country/region or locality where HP has a support presence for this product and where HP has marketed this product. The level of warranty service you receive may vary according to local standards. HP will not alter form, fit or function of the product to make it operate in a country/region for which it was never intended to function for legal or regulatory reasons.

TO THE EXTENT ALLOWED BY LOCAL LAW, THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP OR ITS SUPPLIERS BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL

(INCLUDING LOST PROFIT OR DATA), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some countries/regions, states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

THE WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT OR MODIFY AND ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU.

Customer self repair warranty service

HP products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period, HP identifies that the repair can be accomplished by the use of a CSR part, HP will ship that part directly to you for replacement. There are two categories of CSR parts: 1) Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service. 2) Parts for which customer self repair is optional. These parts are also designed for Customer Self Repair. If, however, you require that HP replace them for you, this may be done at no additional charge under the type of warranty service designated for your product.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same-day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the HP Technical Support Center and a technician will help you over the phone. HP specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to HP. In cases where it is required to return the defective part to HP, you must ship the defective part back to HP within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in HP billing you for the replacement. With a customer self repair, HP will pay all shipping and part return costs and determine the courier/carrier to be used.

Hewlett-Packard limited warranty statement for software

HP PRODUCT	DURATION OF WARRANTY
HP MFP DIGITAL SENDING SOFTWARE v. 4.0	90 days

1. HP warrants to you that the HP SOFTWARE PRODUCT will not fail to execute its programming instructions for 90 days after the date of purchase due to defects in material and workmanship when properly installed and used. If HP receives notice of such defects during the warranty period, HP will replace SOFTWARE PRODUCT media, which does not execute its programming instructions due to such defects.
2. HP does not warrant that the operation of HP products will be uninterrupted or error free. If HP is unable, within a reasonable time, to replace the SOFTWARE PRODUCT to a condition as warranted, HP may request that you uninstall the SOFTWARE PRODUCT and return it to HP for a refund.
3. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY SET FORTH ABOVE. Some states or provinces do not allow limitations on the duration of an implied warranty, so the above limitation or exclusion might not apply to you. This warranty gives you specific legal rights and you might also have other rights that vary from state to state, or province to province.
4. THE REMEDIES IN THIS WARRANTY STATEMENT ARE YOUR SOLE AND EXCLUSIVE REMEDIES. EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP BE LIABLE FOR LOSS OF DATA OR FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFIT), OR OTHER DAMAGE, WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Note: The limited warranty for this product and accompanying software is located in the product documentation that you received with this product. Please review it at this time.

ATTENTION: USE OF THE SOFTWARE IS SUBJECT TO THE HP SOFTWARE LICENSE TERMS SET FORTH BELOW. USING THE SOFTWARE INDICATES YOUR ACCEPTANCE OF THESE LICENSE TERMS. IF YOU DO NOT ACCEPT THESE LICENSE TERMS, YOU MUST RETURN THE SOFTWARE FOR A FULL REFUND. IF THE SOFTWARE IS SUPPLIED WITH ANOTHER PRODUCT, YOU MAY RETURN THE ENTIRE UNUSED PRODUCT FOR A FULL REFUND.

Availability of support and service

Around the world, HP provides a variety of service and support options for purchase. Availability of these programs will vary depending upon your location.

HP maintenance agreements

HP has several types of maintenance agreements that meet a wide range of support needs. Maintenance agreements are not part of the standard warranty. Support services vary by location. Contact HP Customer Care to determine the services available to you and for more information about maintenance agreements. In general, the digital sender will have the following maintenance agreement:

Next-Day Onsite Service

This agreement provides support by the next working day following a service request. Extended coverage hours and extended travel beyond HP's designated service zones are available on most on-site agreements (for additional charges).

B Specifications

- Physical specifications
- Electrical specifications
- Power consumption specifications
- Environmental specifications
- Acoustic emissions

Physical specifications

Table B-1 Physical specifications

Height	Depth	Width	Weight
340.26 mm	571.82 mm	452.62 mm	23.09 kg
(13.40 inches)	(22.51 inches)	(17.82 inches)	(50.7 lbs)

Electrical specifications

Table B-2 Electrical specifications

Power requirements	100-240V (±10%)
	50/60 Hz (±2 Hz)
Minimum recommended circuit capacity	1.0 Amp

⚠ **WARNING!** Power requirements are based on the country/region where the device is sold. Do not convert operating voltages. This will damage the digital sender and void the product warranty.

Power consumption specifications

Table B-3 Power consumption (average, in watts)[1]

Scanning (55 ppm)[2]	Ready	Sleep	Off
98 W	35 W	15.7 W	0 W

1 Values subject to change. See www.hp.com/support/9250c for current information.

2 Power reported is highest value measured for color and monochrome scanning using all standard voltages.

3 Default time from Ready mode to Sleep = 60 minutes.

4 Heat dissipation in Ready mode = 119 BTU/Hour.

Environmental specifications

Table B-4 Environmental specifications[1]

	Recommended	Operating	Storage
Temperature	20° to 27°C (68° to 81°F)	0° to 40°C (32° to 104°F)	-30° to 60°C (-22° to 140°F)
Relative humidity	20% to 70%	15% to 80%	15% to 85%

1 Values are subject to change. See www.hp.com/support/9250c for current information.

△ **CAUTION:** The operating environment should be stable, with no abrupt changes in temperature or humidity that might damage the device. If you move the device from a cold environment to a warm one, wait about two hours before using it.

Acoustic emissions

Table B-5 Acoustic emissions

Sound Power Level	**Declared per ISO 9296**[1]
Scanning[2]	L_{WAd} = 6.7 Bels (A) [67 dB (A)]
Ready	L_{WAd} = 5.0 Bels (A) [50 dB (A)]
Sound Pressure Level - Bystander Position	**Declared per ISO 9296**[1]
Scanning[2]	L_{pAm} = 53 dB(A)
Ready	L_{pAm} = 35 dB(A)

1 Values are subject to change. See www.hp.com/support/9250c for current information.

2 Configuration tested: Scanning simplex monochrome using ADF at 55 ppm and letter paper.

C Regulatory information

- FCC regulations
- Environmental Product Stewardship program
- Declaration of conformity
- Country-/region-specific safety statements

FCC regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If this equipment is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase separation between equipment and receiver.
- Connect equipment to an outlet on a circuit different from that to which the receiver is located.
- Consult your dealer or an experienced radio/TV technician.

NOTE: Any changes or modifications to the device that are not expressly approved by HP could void the user's authority to operate this equipment.

Use of a shielded interface cable is required to comply with the Class B limits of Part 15 of FCC rules.

Environmental Product Stewardship program

Protecting the environment

Hewlett-Packard Company is committed to providing quality products in an environmentally sound manner. This product has been designed with several attributes to minimize impacts on our environment.

Ozone production

This product generates no appreciable ozone gas (O_3).

Power consumption

Power usage drops significantly while in Sleep mode, which saves natural resources and saves money without affecting the high performance of this product.

Plastics

Plastic parts over 25 grams are marked according to international standards that enhance the ability to identify plastics for recycling purposes at the end of the product's life.

Material restrictions

This HP product does not contain added mercury.

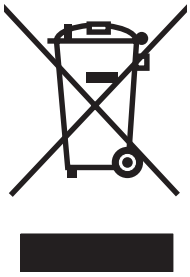
This HP product contains a battery that might require special handling at end-of-life. The batteries contained in or supplied by Hewlett-Packard for this product include the following:

HP 9250C Digital Sender device	
Type	Carbon monofluoride lithium battery BR1632
Weight	1.5 g
Location	On formatter board
User-removable	No

廢電池請回收

For recycling information, you can go to www.hp.com/recycle, or contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

Disposal of waste equipment by users in private households in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Material Safety Data Sheet (MSDS)

Material Safety Data Sheets (MSDS) for supplies containing chemical substances (for example, toner) can be obtained by contacting the HP Web site at www.hp.com/go/msds or www.hp.com/hpinfo/community/environment/productinfo/safety.

For more information

To obtain information about these environmental topics:

- Product environmental profile sheet for this and many related HP products
- HP’s commitment to the environment
- HP’s environmental management system
- HP’s end-of-life product return and recycling program
- Material Safety Data Sheets

Visit www.hp.com/go/environment or www.hp.com/hpinfo/globalcitizenship/environment.

Declaration of conformity

Declaration of Conformity

according to ISO/IEC Guide 22 and EN 45014

Manufacturer's Name:	Hewlett-Packard Singapore Pte Ltd
Manufacturer's Address:	Imaging and Printing Manufacturing Operations, 60 Alexandra Terrace, #07-01, The Comtech, Singapore, 118502

declares, that the product

Product Name:	HP Digital Sender 9250C
Regulatory Model[3]:	BOISB-0401-00
Product Options:	ALL

conforms to the following Product Specifications:

Safety:	IEC 60950-1:2001 / EN60950-1: 2001 IEC 60825-1:1994 + A1:2002 + A2:2001 / EN 60825-1:1994 + A1:2002 + A2:2001 (Class 1 Laser/LED Product) GB4943-2001
EMC:	CISPR 22:1997 / EN 55022:1998 Class B[1] EN 61000-3-2:2000 EN 61000-3-3:1995 + A1 EN 55024:1998 +A1 + A2 FCC Title 47 CFR, Part 15 Class B[2], ICES-003, Issue 4 GB9254-1998, GB17625.1-1998

Supplementary Information:

The product herewith complies with the requirements of the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC, and carries the CE-Marking accordingly.

1) The product was tested in a typical configuration with Hewlett-Packard Personal Computer Systems.

2) This Device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3) For regulatory purposes, this product is assigned a Regulatory model number. This number should not be confused with the marketing name or the product number(s).

Boise, Idaho 83713, USA

July 27, 2006

For regulatory topics only:

Australia Contact:	Product Regulations Manager, Hewlett-Packard Australia Ltd.,, 31-41 Joseph Street, Blackburn, Victoria 3130, Australia
European Contact:	Your Local Hewlett-Packard Sales and Service Office or Hewlett-Packard Gmbh, Department HQ-TRE / Standards Europe,, Herrenberger Strasse 140, , D-71034, Böblingen, (FAX: +49-7031-14-3143)
USA Contact:	Product Regulations Manager, Hewlett-Packard Company,, PO Box 15, Mail Stop 160, Boise, Idaho 83707-0015, , (Phone: 208-396-6000)

Country-/region-specific safety statements

Canadian DOC regulations

Complies with Canadian EMC Class B requirements.

« Conforme à la classe B des normes canadiennes de compatibilité électromagnétiques. « CEM ». »

VCCI statement (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＢ情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

EMI statement (Korea)

B급 기기 (가정용 정보통신기기)

이 기기는 가정용으로 전자파적합등록을 한 기기로서
주거지역에서는 물론 모든지역에서 사용할 수 있습니다.

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